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Thesis

FOUR UNITS FOR A TENTH-GRADE CLASS

IN HOME ECONOMICS

Submitted by

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#### CHAPTER I

# STATEMENT OF THE PROBLEM, METHODS EMPLOYED, AND A DEFINITION OF TERMS

The Problem and the Method Employed

The problem. -- The problem of this thesis is the application of certain basic psychological principles to the organization of work for a tenth-grade home-economics class. The thesis is not intended to be a defense of these principles, but rather an application of them to a definite situation. If the units of work were presented to the writer's classes, and revised to be included here.

Method employed. Two years ago the principal and teachers of the school realized that a reorganization of subject matter was necessary to meet the social changes of the times, and to fit the new type of pupils now entering high school - a type which heretofore had left school at the first opportunity. Crowded conditions made it necessary to change the time allowed for home-economics classes, and under the new schedule it was considerably reduced. An effort was made to adapt the work, as previously organized, to the new time schedule, but this attempt was unsuccessful as the work had

<sup>1/</sup> The principles are those set forth in the course entitled The Unit Assignment in Secondary Education, offered at Boston University, School of Education, by Dr. Roy O. Billett.

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been established on the meal-planning basis, and the new schedule did not provide sufficient time for the preparation and serving of a meal. In reorganizing the course, the new time allowance has been a major factor for consideration, and also an attempt has been made to make the course conform to certain recent trends in home-economics education - trends discussed later in this chapter.

Definition of Six Terms with Adaptations of their Uses

The Unit-Assignment. -- In this thesis it has been necessary, of course, to employ a terminology, but no attempt is made to defend it. The unit assignment is a method of teaching in which the individual differences of children are recognized, and the work adapted to take care of these differences. In the public school of today there are those pupils who are termed by their teachers "bright". There are also pupils who learn slowly, and are called "dull". The remaining members of the class, by far the largest number, are said to be "average". School work is generally planned for the last group, and there is no challenge either to the bright pupil to do his best work, as he will "get by" anyway, or to the dull pupil, who is doomed to failure. The unit-assignment plans for the individual in three ways: first, by varying the assignment

<sup>1/</sup> The terms are the present writer's interpretation of the terminology employed in the <u>Unit Assignment in Secondary Education</u>. A volume is in preparation, by Dr. Billett, setting forth the entire theory of the unit assignment as applied to secondary education.

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to suit the different levels of ability in the group; second, by planning enough work to keep all pupils busy all of the time; and third, by providing for supervised study periods during which the teacher may give individual help.

The Unit. -- All subject matter may be divided into sections, and these sections may again be divided into smaller learning-units. A good learning-unit has the following characteristics: first, it represents one logical division of the subject; second, it has a definite time period, usually two or three weeks, or their equivalent; third, it is scaled to meet the ability of the individual pupil; and fourth, the emphasis is placed on subject matter, which is important to the interests and needs of the pupil for whom the work is intended. The purpose of the unit, the abilities, knowledges, and skills that are to be developed, should be definitely known and stated.

The Delimitation. The delimitation is that part of the unit in which all the specific skills, knowledges, and abilities to be acquired by the pupil are declared, and set forth in simple statement form. All work in the assignment must be covered in the delimitation, and it is desirable also to include the work of the optional activities. The teacher must decide what emphasis she wishes to place on the subject, and what phase of the subject is best to develop. The delimitation then becomes her pattern of work. While the teacher who is to present the work is usually the one to write the delimitation, since she best knows the needs and abilities of

her class, it is entirely possible for the supervisor to plan the delimitation for teachers in her department, and it is then the work of the classroom teacher to adapt it to the class. This organization of work has several advantages. It provides for an economical use of the time that is to be allotted to the work; it enables one to discard material which has been used only because tradition has decreed its use, and which has little or no value to the pupil or to the problem; and finally, it provides for the best use of the material as found in the text and reference-books which the student will use.

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The delimitations in this thesis have been planned with these points in mind. Some of them need discussion. A criticism may justly be made that certain delimitations are too long, especially when compared with the length of the entire assignment. The first impression is that either the conception of the unit has been misunderstood, and several units used as one, or that too many learning-products are expected of the pupil. It has been stated that all of the learning-products which will be covered by the assignment should be included in the delimitation, and that it may be well also to include the work of the optional activities. Delimitation A in the "Food Preservation" unit may demand an explanation on this score. Examination shows that it is really only one unit, and not too many learning-products are expected, but the form is unwieldly. An inexperienced teacher will find such a delimitation of inestimable value, and a great aid in preparing her assignment;

but for the experienced teacher such a detailed delimitation is unnecessary, and may be considered or little value, for much of the material is found in all books, and understood by all teachers. The experienced teacher needs to be reminded of general points, and not details. Materials that are readily found in textbooks need not be included in the delimitation. In the planning of Delimitation B these facts have been taken into consideration, and such materials as are readily available, as procedures, and recipes, have been omitted. The work covered by the optional activities has been omitted also, as their place in the delimitation may be justified only in that it gives a clearer picture or the problem as a whole. The bulkiness of the form of the "Table Setting and Serving" unit is due to the inclusion of the work of the optional activities; while in the "Candy-Making" unit these activities have been omitted entirely.

Certain points in the delimitations are marked with an asterisk, meaning that these problems are not intended to be worked out by all pupils. In most cases they indicate the work included in the optional activities. Some asterisks refer to the section as a whole, while others refer only to part of the section.

The Assignment. -- The assignment is the working program which is given to each pupil to guide him in his study. Care must be taken to make it conform to his abilities and interests. All exercises and questions, all explanations and inter-

pretations of the text material that can be determined in advance, and all devices needed by the pupil to do his work, such as charts or forms, are to be included in the assignment. It is necessary also to include a bibliography. The attention of the student may be drawn to sections of reference books that apply to a particular problem, although sometimes it is well to throw him on his own resources, and allow him to find the material for himself. In two or the units the references best suited for the solving of the problem are indicated in the assignment by numbers which correspond to those in the bibliography. Page numbers have not been included as this seemed a good opportunity to teach girls how to use reference books. The other units have not been so coded to indicate references.

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The assignment is broken up into smaller problems arranged in sequence for the logical working out of the problem as a whole. Some of these problems may be required by everybody, and others required of certain groups of pupils. If the unit is to be presented to several groups of different abilities, it is usually better to make assignments on different levels, for it is through the assignment that provision is made for individual differences. An example of the need for two assignments is shown in one of the units. The "Food Preservation" unit and the "Candy-Making" unit were the first to be presented, and were the same for all classes as the abilities of the groups had not been clearly determined.

The work of these units showed clearly what abilities each group possessed. Four of the seven groups were able to work very independently. The other three groups had difficulty in using reference books, and in finding and assembling materials. The first two assignments were long for these groups, and their interests had waned before the work was completed. After the delimitation for the "Meal Planning" unit had been worked out, a definite plan was drawn up for the two assignments. Both units were to cover the same subject-matter, since a common recitation period would be used for discussions. The work for the brighter pupils - Assignment A - was to follow the same general plan of the previous units. For the slower groups -Assignment B - the objectives were to be attained through as much hand-work and illustrative material as possible, and reference work was to be reduced to the minimum. By dividing the slower classes into groups, and assigning parts of the problem to each group, it was possible to eliminate a great deal of reference work. More drill work was provided for these groups, and all figuring for the costs of servings was done by the teacher in order to prevent the subject from becoming "just another problem in arithmetic". In planning their meals, both groups used menus from local hotels and restaurants, and menu cards from the school cafeteria. The results of each problem were recorded as they were completed. Ideally these scores should increase with the scoring of each new problem, indicating increasing ability of the girl to

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plan a well-balanced diet.

Optional Activities .-- Since one of the advantages of the unit assignment is to provide work enough to keep pupils busy for the entire time allotted to the work, some provision must be made for the quick workers. This provision is made by means of the optional activities. Such a portion of the unit suggests activities which are related to the assignment, and which appeal to the interests of the pupil. Two methods of planning for these activities may be pointed out. Some teachers prefer that the optional activities by considered as extra work, although this is not the real purpose of such work. and under these circumstances the work is undertaken only when the required work is completed. Some assignments may suggest these activities in the problems where they logically fit, and in this case the pupil may be allowed to work on them as his interests dictate. Optional activities should supplement the assignment, and may be a means of correlating the work with that in other departments in the school. They should appeal to the different interests of the pupil - handicraft, related subjects as history, geography, music, or art - and may be directed toward such activities as some form of group work, field trips, or interviews.

In the "Food Preservation" unit the optional activities have been classified to show how various types may be planned to take care of the interests of the group. Some girls like to give oral talks, some to draw and prepare maps and charts,

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some to do hand-work, while some enjoy organizing work, and working with others. All of these activities are planned for in each unit, but they have not been so classified. The girls were encouraged to present original ideas for their work, and several good topics were suggested and developed.

Tests. -- The object of a testing program is to determine what has been accomplished. Since the delimitation tells what should be taught, the tests should be based on this rather than on the assignment. In this way it is possible to check not only the pupil's progress, but the reliability of the assignment in meeting the standards of the unit as specified in the delimitation. More than one test is desirable for each unit, the tests varying in form. Tests should be as objective as possible so that the pupil may occasionally score her own work. They may be made to cover sections of the work, or to cover the assignment as a whole, the advantage of the first method being that the pupil may check her work as she progresses, and not undertake a new problem until she has mastered the one she is working on. As a test should measure what the pupil has accomplished, the final one may contain some questions on the optional activities. New-type tests were chosen in the testing program of these units, the multiple choice, completion, and a combination of matching and completion being selected as best adapted to the work.

Conditions Governing the Solution of the Problem

The environment of the pupil. -- The environment of the

pupil takes into consideration such factors as the size of the community, and the character of the townspeople. The town in this case has a population of about twenty thousand. It is a growing community, its growth being due to the opening of new industries. Two new shoe-manufacturing concerns have opened new factories within the last few years, and a plant which manufactures cookies operated for a short time. The main business of the town is a paper-making concern of national reputation. Two groups of people stand out. One of these is a wealthy group with pretentious homes, whose interest in the schools extends only so far as the cost of school maintenance affects the tax rate. The majority of the people, however, are from the working class, mainly factory workers. Their interest in education has been evidenced by the sacrifices they have made to keep their boys and girls in school. Many families from this group have had their incomes greatly reduced during the last few years and many have been on relief rolls.

The life and interests of the people are affected by their work, but they are also influenced by other things. In the case of this community, three other influential factors may be mentioned: a state teachers' college in one section of the town stamps its interests on the people of that locality; the influence of a city, as the town is only a little over twenty miles from Boston; and the nationality of the people in so far as the manners and customs affect the social life of the individual. The town has a large foreign population, mainly

Italian.

The school plant. The school plant itself limits classroom plans. The senior high school in which this work was
carried on has an enrollment of over one thousand pupils. Its
growth during the last few years has been rapid, and indications
are that there will be a greater increase during the next few
years. Larger classes than are usually considered desirable
have been made necessary by crowded conditions, and all
facilities have been taxed to capacity. The school operates
in two units. The main building is used for academic and commercial subjects, and the annex, which is located a block from
the main building, is used for fine and mechanical arts.

Home Economics has a definite place in the school. During recent years, when school expenses have been curtailed and home-economics programs in some schools have been abandoned entirely, this department has shared curtailment with others, but it has never been asked to give up more than its share. The equipment is not new, and much of it is out of date. However, such generous provision was made for the department before the depression that it is possible to carry on many different lines of activities. In addition to the usual laboratory, a dining room, living room, and kitchenette have been attractively furnished, and are used for demonstration lessons in meal serving and housekeeping.

Approximately two hundred and fifty girls in the school are enrolled in home-economics work of some nature, and two

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teachers are needed to take care of these classes. Girls in the social arts and commercial courses are required to take a homeeconomics course during the sophomore year. This is considered to be unprepared work, and two credits toward graduation are allowed. The class meets three periods each week; one of these being a clothing period, one for foods work, and the other used for various activities such as a recitation period for either foods or clothing, for demonstrations, movies, tests, or other work related to the general field of home economics. The group is divided into seven laboratory classes, but as larger groups can be handled in recitation periods, the groups are combined to make three such classes. The recitation period is forty-five minutes long. Crowded conditions make it impossible to provide for a double laboratory period. However, the program does provide for some fifty-eight minute periods, and as many homeeconomics classes as are possible are scheduled in these periods. Under such conditions, practical laboratory work is possible only in a limited way, and for this reason it seems best to use the time allotted to foods-work for a more general type of homeeconomics work rather than to limit it strictly to foods. Homeeconomics is an elective subject for all girls during their junior and senior years. Two double periods of foods and clothing may be elected, or either one of these combined with three periods of household management. It is also possible for girls to elect one period of clothing during the junior and senior year, for which they receive one point credit.

The pupils' interests and abilities .-- The pupils' interests and abilities must be considered when one is planning a course of study. The girls enrolled in home-economics work in this case may be said to have a little less than average ability. As represented by intelligence tests, their abilities range between 90 and 95, with a few as low as 70. Since English is not spoken in every home, many pupils are decidedly handicapped by a language-difficulty. The classes are well grouped according to ability, but no attempt has been made to group according to the amount of home-economics work that the pupil has had previous to entering high school. It is not unusual to find pupils in one class the amount of whose previous work varied from one to three years. Many of the girls work after school hours caring for children, working in stores, and doing house-work either at home or in other homes. Only a few of the girls will go to school after they graduate from high school. The majority, who will find employment in stores, in factories, as waitresses, or as mother's helpers, as long as they remain at home will help with meal preparation. and food buying. Their interests and needs make it desirable to include in the course as much practical work, and as little theory, as possible.

Contribution of home-economics to education. -- Home-economics is a subject which is recognized as contributing to the field of education. School programs in general are being evaluated in the light of their effectiveness in helping the

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individual to solve the problems in his own life. Recent articles in home-economics education emphasize the same point. It has been said that, "because of education, the world should be a better place in which to live; because of home economics education, home and family life should become more satisfying and be a more effective unit in society's development." The home-economics field offers to education important contributions, all dealing with personal living.

- l. Home-economics trains individuals to earn a living.

  Vocational education is an example of this contribution, and has no direct bearing to the work here described. The vocational aspect in the average high school is of secondary importance. Certain lines of work which girls enter after graduation are not dependent upon their home-economics work in high school, but some help may be given them in a general way.
- 2. Home-economics trains in health education. Nutrition, as stressed in foods classes; personal hygiene, as stressed in home nursing, or in personal regime' units in general home-economics courses; and sanitation, as considered in household management courses, all contribute to health education.
- 3. Home-economics trains for the wise use of leisure time, and develops the interests and talents of the individual. Work in any phase of home-economics makes this contribution.
  - 4. Home-economics trains for home making. It helps the

Deulah I. Coon, "Criteria for Evaluating Content in Home Economics", Journal of Home Economics, March 1934, page 142.

girl to meet her present home responsibilities, as well as those she will assume later in her own home.

In addition to bearing in mind the contributions that education may expect of home - economics, one may use pertinent criticisms of workers in the field to steer the course in the right direction.

- 1. Home-economics courses have not recognized existing home conditions. The laboratory in which the pupil works has equipment different in design and more advanced in style than that of the home.
- 2. Home-economics courses have not been flexible enough to meet social changes. They disregard present home membership, and place the emphasis on the future homemaker, often setting up a standard of living which the pupil may never attain.
- 3. Home-economics courses are not made vital in the life of the pupil. They fail to take into consideration in their planning increased food costs and decreased incomes.

The results of the questionnaire. Only three factors necessary for course planning are definitely known - local conditions, the school organization, and the ideals set up for home-economics courses. The most important factors, the girls' activities, their environment, and their outlook, are unknown. In order to satisfy all conditions for the solution of the problem a questionnaire was prepared and submitted to one hundred fifty-four girls in the tenth and eleventh-grade food classes. The questionnaire was comprehensive enough to make it

of value in other home-economics-classes. The home-management group was more benefitted by the questionnaire than the clothing groups. The purpose of the work was explained to the girls, who showed an unusual amount of interest in answering the questions. The information asked for dealt with the family, its size, nationality, and ages of its members; with thehome, its location, size, conveniences, and labor-saving devices; with the habits of the family, such as food-buying habits, and home activities; and with the girl herself. It seemed particularly desirable under the last-mentioned division to find out what home activities girls are responsible for, or help with; what the girl does with her leisure time; and whether or not she works away from home after school hours, and if so, what she does. A revised questionnaire has been included in the appendix, and it is hoped that it may be of interest and help to others who have the same problem to solve. The revised form has not been submitted to any group. Revision was necessary for four reasons: First, some of the material asked for in the questionnaire proved valueless in relation to course planning. For instance, one question concerning the family dealt with the kind of work of its members. Such a question was found to be unimportant, and had no reference to course planning. Second, some items were not clearly stated, and therefore the information received was not accurate. An attempt was made to find out what girls usually have for breakfast, but the question was so set up that this informa-

tion was not obtained. Third, some information was later found to be desirable, and a few questions were added to the revised questionnaire. The new questions are concerned with food habits. Fourth, the form of the questionnaire, since it was the writer's first attempt at such work, was so arranged that tabulation was not only difficult but almost impossible for accuracy, and it was necessary to change it to a more workable form.

No attempt will be made to tabulate the findings of the questionnaire as only part of it concerns the work here described. Even though the form was so poor that exact information could not be gathered, it nevertheless showed in the home environment of the pupil certain general tendencies which are of interest, and have direct bearing on this question of program making.

The results of the questionnaire may be divided into two groups: those dealing with the activities of the girls, and those dealing with home conditions and family habits. In the first group all girls reported that they help with the housework and with the care of children; 61 per cent help with meal preparation; 42 per cent work after school; 36 per cent help with food buying; 31 per cent help with meal planning. In the second group 85 per cent reported that some form or food preservation was carried on in their home; 77 per cent reported that oil was used for fuel for cooking; in 59 per cent of the homes bread is purchased, 72 per cent buy some of it, and 14

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per cent have ovens with automatic heat control. No girl reported maid service in her home. The figures in the first group are valuable for the planning of units of work. The figures in the last group, with the exception of that for food preservation, are more valuable for planning individual lessons, or the equipping of a laboratory, than for course planning.

The following topics logically grew out of the findings of the questionnaire: Food Preservation, Meal Planning, Meal Preparation, Food Buying, and Earning One's Living. The last one mentioned does not meet the specifications of a good unit since it may be broken up into other units, such as Child Care, and Housewifery.

By consulting school records, and thereby finding out what girls who have been enrolled in home-economics courses do after graduation from high school, the pupils' outlook - another unknown was determined. This revealed, for the most part, that the same lines of work in which the girls were engaged while in high school were carried on after graduation. To help the girls meet these situations, two units must be added to the unit dealing with Earning One's Living. These are Table Setting and Serving, and Social Acceptability.

If these offerings are compared with the contributions that home-economics is expected to make to education, one point will be found for which no provision has been made, that of training for the use of leisure time. Two such units, based

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on a knowledge of the interests of girls, are suggested - Candy-Making and The Art of Being a Hostess.

It is not practical to suggest what materials should be included in all of the units mentioned, but materials presented in some of these suggested units will be discussed in later chapters. More work is suggested here than could possibly be covered in one year's time under the present time allotment, but the suggestion of several topics makes it possible to choose those which are of particular interest to a group.

## CHAPTER II

## FOOD PRESERVATION

## The Unit

To develop skill in the canning process and the making of jellies; to give an understanding of the principles of food preservation, and the points to consider when purchasing canned foods.

## Delimitation A

- 1. The principle of food preservation depends upon the fact that the spoiling of food is caused by the presence of certain elements and is retarded by the presence of others. Such a study involves consideration of such points as:
  - A. By canning and sealing in air-tight jars organisms are deprived of air which is essential for their growth;
  - B. By storing at a temperature of 35 degrees Fahrenheit the growth of organisms is prevented;
  - C. By heating to a temperature of 212 degrees Fahrenheit for at least ten minutes organisms are killed. Spores will withstand this temperature for several hours;
  - D. By removing moisture, as in the drying of foods, organisms are deprived of an essential for their growth;
  - E. By adding spices, vinegar, salt, sugar, or smoke, food is rendered unsuitable for the growth of organisms.
- 2. Two of the common methods of food preservation carried on

in the home are canning and jelly making.

- A. Canning is accomplished by the open kettle and cold pack methods.
  - 1. Both processes have certain procedures in common.
    - (a) Jars should be selected that have perfect seals, and that are free from cracks and chips.
    - (b) Jars must be sterilized before they are used.

      They should be washed, filled with water, and placed on a rack in a kettle. Water is added until the jars are covered, and then they are allowed to boil for ten minutes.
    - (c) The rubbers must be new ones. They are dipped in boiling water before they are used.
    - (d) Firm, ripe, or slightly underripe fruits are chosen for canning - never overripe. Decayed and bruised fruits are avoided as they affect the flavor and keeping qualities.
  - 2. The open kettle process is suitable for fruits and tomatoes. The directions for the open kettle method are as follows:
    - (a) The product is scalded by dipping it in boiling water until the skin is loosened.
    - (b) The skins, cores, and pits are removed, and the fruits are cut in halves, or quartered, or sliced, as desired. Small fruits may be canned whole.

- (c) The fruit is cooked until it is well heated through in syrup, the density of the latter being determined by one's taste, and the acidity of the fruit.
- (d) The cooked fruits are packed in the sterilized jars, and juice is added to fill the jar.
- (e) The air bubbles are removed by running a spatula around the inside of the jar, and the jars are then refilled to overflowing with syrup.
- (f) The jar is sealed immediately.
- 3. The cold pack process is suitable for fruits and tomatoes, and is the only safe method to use for vegetables, meat, fish, and such food combinations as soups and stews. Food is canned by the cold pack process as follows:
  - (a) The product is washed, and prepared for canning - peas shelled, corn husked, or beans cut.
  - (b) The food is scalded or blanched.
    - (1) The scalding process for fruits and tomatoes is the same as in the open kettle process.
    - (2) Food is blanched to (a) loosen skins,
      - (b) partially cook the food which shortens the processing time, (c) drive off

strong objectionable acids, (d) drive off the food gases and air found in foods, (e) shrink the food, (f) aid in setting the color, (g) aid in preservation. The directions for blanching are as follows:

- (a) Place the food in a cheese cloth bag, or a wire blanching basket.
- (b) Lower the above into a kettle of boiling water, allowing four to six times as much water as food to prevent crowding.
- (c) Boil for the time specified in the canning table. The period starts when the water is again at the boiling point. (reference 9, pages 256 and 263).
- (c) The vegetables are cold dipped, following these directions:
  - Lift the vegetables from the blanching water, and plunge them into cold water.
  - (2) Allow them to remain in cold water until they are thoroughly chilled.
- (d) The food is packed in sterile jars.
  - (1) Fruits and tomatoes, which have a tendency to shrink, are packed as tightly as is possible without crushing the fruit.

- (2) Vegetables such as corn, peas, and beans, which have a tendency to swell during the processing, should be packed loosely, leaving a space of about threefourths of an inch at the top of the jar.
- (3) One teaspoon of salt is added to each quart of vegetables.
- (e) Boiling liquid is added to each packed jar.
  - (1) Boiling water is added to vegetables;
  - (2) Hot syrup is added to fruits,
    - (a) One cup of water to one cup of sugar is used for a heavy syrup,
    - (b) One cup of water to three-fourths of a cup of sugar for a medium syrup,
    - (c) One cup of water to one-half cup of sugar for a thin syrup.
- (f) Air bubbles are removed as in the open kettle process, and the jars refilled with liquid.
- (g) The cover is placed on the jar and only partially sealed, to allow for expansion of food during the processing.
  - (1) The screw top or Mason jar may be tightened as much as possible, and then loosened one-half turn, or it may be screwed on as far as possible with the thumb and

little finger.

- (2) Jars having a bail over the top are partially sealed by placing the bail on the cover, but not clamping it to the side of the jar.
- (3) Jars which have one clamp on each side are "half clamped" down, or as the manufacturer expresses it, "to the first click".
- (4) The covers on Economy jars are clamped down during the processing by using an old clamp that is slightly bent to prevent the cover from being held on too tightly.
- (h) The filled jars are sterilized as soon as the packing is completed to kill organisms and develop the seal which will prevent air from entering the jar. If the processing is delayed, spoilage will result because the warmth in the jar is ideal for the growth of organisms.
  - (1) There are three methods of sterilization, and the directions for each method are as follows:
    - (a) In the hot water bath method the jars are placed on a rack in a deep kettle to allow a circulation

of water under the jar. The jars are not allowed to touch. Warm water is poured into the kettle until the jars are covered with one inch of water. The sterilization period starts when the water reaches the boiling point. As the water evaporates more must be added, and care must be taken not to pour boiling water directly on the jar and cause it to break.

\*(b) When the pressure cooker is used for sterilization, the jars are placed on a rack, and water is added until it touches the rack. The cover is placed on the cooker, care being taken to match the kettle and cover as indicated, by matching the numbers or some other similar marking. If the kettle has more than one clamp, each is screwed alternately rather than fastening one at a time. The petcock is opened, and heat is applied. When steam issues in volume through the petcock, the petcock is closed. Sterilization starts when the pressure gauge registers

the required temperature. At the end of the processing period the heat is turned off and the cooker is allowed to stand until the gauge registers zero. The petcock may then be opened slowly to prevent a sudden change of temperature, which will draw the liquid from the inside of the jar. The cover is then unclamped and removed.

- (c) In oven sterilization the heat control should be set at 225 degrees Fahrenheit for the specified period.
- (2) The temperature during sterilization should be constant, as variations will draw the liquid from the jar.
- (3) The length of the sterilization depends upon the size of the jar, and the character of the material. Non-acid foods require a longer period than acid foods, or soft foods. Time must be allowed for the heat to penetrate to the center of the jar.
- (1) At the end of the sterilization process the jars are removed from the sterilizer, and the sealing is completed. Jars need not be inverted while cooling.

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- (j) Jars should be inspected for leakage. A fine stream of bubbles will indicate trouble, which may be remedied by:
  - A new rubber which should be adjusted and jar resterilized;
  - (2) The contents of chipped or broken jars is unsuitable for use as a tiny chip of glass is dangerous if it enters the body. Such food should be disposed of by burning or burying, and should not be given to animals.
- B. Success in jelly making depends upon the selection of fruit, and the procedure used.
  - 1. Fruit that is suitable for jelly making should be:
    - (a) Rich in pectin a kind of starch that is responsible for the stiffening of the juice when cool, and found in large quantities in apples, quinces, cranberries, currants, and grapes; or
    - (b) Combined with one which contains pectin if the fruit chosen is lacking in pectin; or
    - \*(c) Combined with a commercial or homemade pectin.
      - (1) Certo is a commercial make of pectin;
      - (2) Homemade pectin may be made from cull apples, or the skins of citrus fruits from which the colored section has been removed.

- (d) Sound, and free from decayed and bruised portions;
- (e) Slightly underripe.
- 2. The process used in jelly making is as follows:
  - (a) The selected fruit is prepared by
    - (1) Washing.
    - (2) Cutting or slicing,
    - (3) Removing the stem and blossom end, but not cores or skins;
  - (b) Water is added to hard fruits until it just covers the fruit, juicy fruits are mashed;
  - (c) The fruit is cooked until it is very soft to extract the juice;
  - (d) The juice is separated from the pulp by allowing it to filter through a jelly bag made of a double thickness of cheese cloth, or flannel. It must not be pressed or the jelly will be cloudy;
  - (e) The juice is measured and allowed to boil for several minutes to evaporate some of the moisture before the sugar is added, the exact time depending upon the kind of juice, and the quantity;
  - (f) The sugar is measured (one cup of sugar is allowed for one cup of juice, but the proportion may be varied to suit one's taste);

- (g) The measured sugar is placed in a shallow pan and allowed to heat in a slow oven, in order that the temperature of the juice may not be reduced when the sugar is added;
- (h) The hot sugar is added to the juice and the boiling continued until the jelly stage is reached, which may be determined by
  - (1) 219 degrees to 222 degrees Fahrenheit on the jelly thermometer,
  - (2) Dropping a little of the juice on a cold plate to see if it will stiffen on cooling,
  - (3) The spoon or sheet test, in which the last few drops of juice will flatten out as they leave the spoon and cut sharply away leaving the spoon clean,
  - (4) The appearance of the surface of the cooking juice, which will be covered with bubbles of uneven size, giving the surface an uneven appearance;
- (i) The juice is skimmed, and poured immediately into hot, sterile glasses;
- (j) The completed jelly is covered with paraffin in either of two ways;
  - (1) As soon as the jelly has stiffened, melted paraffin is poured over the top to a thickness of one-eighth inch,

- (2) A small quantity of paraffin is placed in the bottom of the jelly tumbler, and the hot jelly is poured over it, the heat from jelly melting the paraffin and causing it to rise to the top of the tumbler and form the seal;
- (k) Metal covers are placed on the tumblers as soon as the paraffin has hardened, or waxed paper tied over the top of the glasses.
- Inferior preserved foods are evidenced by appearance and spoilage.
  - A. The poor appearance of canned foods is caused by discoloration, crushing, or shrinking of food, or by partially filled jars.
    - Canned foods will discolor, or lose their color if they are
      - (a) Exposed to the light red fruits and vegetables especially;
      - (b) Not thoroughly chilled in the cold dipping;
      - (c) Oversterilized;
      - (d) Allowed to stand in the air after the skins have been removed. (Fruits should be placed in the syrup immediately, or in water to which has been added the juice of a lemon.)
    - 2. Food will be crushed or broken if
      - (a) The jars are crowded when packed;

- (b) They are over-blanched;
- (c) They are not cooled before packing.
- 3. Foods will shrink after they have been placed in the jar if
  - (a) The blanching is insufficient;
  - (b) The food is processed too long or at too high a temperature;
  - (c) The syrup is too heavy.
- 4. The jar will not be filled with liquid at the end of the processing period if
  - (a) The level of the water in the sterilizer falls below the top of the cover of the jar during the processing;
  - (b) The steam pressure is not constant;
  - (c) The food gases are not driven out during blanching, and the time allowed for cold dipping is not sufficient to allow the water to be absorbed to take the place of the food gas;
  - (d) The air bubbles are not removed.
- B. Canned foods will spoil if
  - Bruised or decayed food is used, as these contain bacteria;
  - 2. It is not sterilized immediately after packing (the warmth allows organisms to develop and causes a food spoilage known as "flat sour");

- Defective covers, jars, or rubbers are used so that the jars are not air tight;
- 4. Food is understerilized, either because the sterilization period is too short or because the temperature of the sterilizing medium is too low;
- 5. The jar is packed so tightly that the heat cannot penetrate;
- 6. The jars are not completely sealed as soon as the sterilization is completed.

## C. Spoiled foods are detected by

- The sound of air rushing out of the jar when it is opened - a slight explosion;
- 2. A loosened cover;
- 3. Bubbles of air, or a frothing in the jar;
- 4. Darkened or discolored fruit of spongy appearance;
- 5. Liquid that is cloudy;
- 6. An unpleasant odor and taste. This, however, cannot be relied upon for all types of spoilage. The most dangerous type of food poisoning, known as botulism, cannot be detected by either taste or odor. Acid foods, as fruits and tomatoes, are not affected by this type of poisoning, and toxins in other foods are destroyed if the food is heated in an open saucepan for ten minutes. Canned foods, therefore, should not be tasted to determine their fitness for food.

- D. The quality of jelly is recognized by its color and flavor; by the presence or absence of evidences of "weeping", fermentation, sugar crystals, sediment, and by its firmness.
  - A colorless, flavorless jelly results when the fruit used is lacking in color and flavor.
  - 2. Sugar crystals will be found in jelly if
    - (a) The sugar is added too near the jellying point;
    - (b) Too much sugar has been used.
  - Jelly is said to "weep" when a liquid separates from the jelly and works through the paraffin to the top of the jar. This will be the result if the paraffin cap is too thick.
  - 4. Jelly will ferment when an insufficient amount of sugar has been used.
  - 5. Jelly will be cloudy if
    - (a) The fruit is immature, and therefore contains too much starch;
    - (b) The juice was not properly drained, or was forced through the jelly bag;
    - (c) The jelly cooled before it was poured into the glasses;
    - (d) The jelly was poured from too great a height;
    - (e) The juice contained too much pectin.
  - 6. Jelly will be soft, or will not stiffen if

- (a) It is undercooked;
- (b) The pectin is destroyed by overcooking;
- (c) The pectin is destroyed by the use of too much sugar;
- (d) The pectin is destroyed by slow cooking;
- (e) The fruit lacks pectin.
- 7. Jelly will be tough if too little sugar is used.
- \*4. Food is stored in the home in closets and refrigerators.
  - A. The storage closet for vegetables and canned foods is usually located in the cellar, and should meet the following specifications:
    - 1. The northeast corner of the cellar is the coolest part and is the best place for a storage closet. The walls and door should be double, and the space between filled with some insulating material. It must be tightly constructed to keep out heat and rodents.
    - A floor of dirt is best, with strips of wood laid over it to prevent tracking dirt to the rest of the house.
    - 3. Ventilation should be provided for by a window, which should be kept open except when there is danger of freezing the food. The window should be screened.
    - 4. The shelves for the canned food may be open or enclosed. Bins should be provided for root crops.

These will not dry out if they are packed in sand.

The sand must not be too dry.

- B. Refrigerators are used for storing the more perishable foods. Both ice and mechanical refrigerators are popular, and the efficiency of either depends on its ability to retain a low temperature. This factor is affected by the refrigerant used, the construction of the refrigerator, and a knowledge of the proper use and care of the machine.
  - 1. The temperature will vary with the refrigerator, and within the box itself.
    - (a) If ice is the refrigerant, and the refrigerator is well filled, the temperature inside the box will vary from 42 degrees Fahrenheit in the coldest part of the box - directly below the ice in the "side-icer", and under the cold air drop in the "top-icer" - to 47 degrees Fahrenheit in the warmest part - in the compartment beside the ice in the "side-icer", and the bottom shelf of the "top-icer".
    - (b) The temperature in a mechanical refrigerator is lower and more constant than in the ice refrigerator, and it may be regulated. The atmosphere is less moist.
  - 2. Ice, sulphur dioxide, methyl chloride, and ammonia are common refrigerants.

- (a) When ice is used, the heat from the food compartment is withdrawn to melt the ice, and the faster the ice melts the colder the refrigerator will be. Any interference with the melting, such as covering the ice with paper, destroys the efficiency of the box.
- (b) The refrigerant in a mechanical refrigerator is sealed into the unit. It should be nonpoisonous, non-inflammable, non-explosive, of non-irritating odor, stable, and non-corrosive. Leaks should be easily detected by simple tests.
  - (1) Sulphur dioxide is non-inflammable, non-explosive, stable, and non-corrosive. It is poisonous, but its characteristic odor makes its presence known, and therefore serious accidents are avoided. Leaks are easily detected. A leak in the food compartment causes food spoilage.
  - (2) Methyl chloride is non-corrosive, colorless, and practically odorless. It is
    poisonous, but under usual home conditions so little would escape as to be
    practically harmless. It is explosive,
    but not under usual home conditions. A
    leak is easily detected, but would spoil
    food if it occurred in the food

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compartment.

- (3) Ammonia is explosive and inflammable, but not under the usual household conditions; its characteristic odor signifies trouble, and leaks are easily detected. Ammonia spoils food.
- 3. The construction of the refrigerator is important in relation to its efficiency.
  - (a) A well-constructed refrigerator has the following characteristics:
    - Well-seasoned hardwood, or steel should be used in its construction - wood is a better non-conductor of heat than steel;
    - (2) Joints should be firmly fastened together;
    - (3) The insulation should be two inches in thickness, and strong enough to stand up without support;
    - (4) The lining should be made of enamel, cast in one piece, without seams or joints, and should have rounded corners;
    - (5) The doors should be as well insulated as the walls;
    - (6) The drain pipe in the ice refrigerator should be removable, and should be equipped with a trap;

- (7) Shelves should be made of wire to allow a good circulation of air. If slate or corrugated iron are used, they should not touch the back wall;
- (8) The opening for the escape of cold air should be large, and placed directly below the ice rack;
- (9) The ice rack should stand an inch and a half above the bottom of the ice compartment;
- (10) A guide or baffle is necessary to conduct the cold air to the bottom shelf, and all the way up to the top shelf. It should be solid with no openings into the food box, and should extend to within five inches of the bottom and six inches of the top of the refrigerator;
- (11) The food compartment should be adequate, allowing two cubic feet for each member of the family.
- 4. Proper care of the refrigerator is dependent upon a knowledge of what foods to place in the refrigerator, and where these foods should be placed, as well as the best method for caring for the machine.
  - (a) The following may be said regarding what foods to place in the refrigerator:

- (1) Strong-flavored foods such as fish, and foods that absorb odors as fats, and foods which dry easily, should be kept in covered containers in the refrigerator;
- (2) No food that is wrapped in paper should be placed in the refrigerator as paper prevents the chilling of foods;
- (3) No food should be placed in the ice compartment;
- (4) The refrigerator should not be crowded;
- (5) Food should be placed in the refrigerator in dishes kept especially for this purpose. Serving dishes must not be used;
- (6) Food should be cooled to room temperature before it is placed in the refrigerator.
- (b) Food must be properly placed in the refrigerator.
  - (1) Milk, butter, and fats should be placed in the coldest part of the refrigerator, which is
    - a) Directly under the ice in the "sideicer" type;
    - b) Directly under the cold air drop in the "top-icer" type, which is usually in the center of the top shelf;

- c) Close to the unit in the mechanical refrigerator.
- (2) Fruits and vegetables may be placed in the warmest part of the refrigerator, which is
  - a) At the top of the compartment opposite the ice in the "side-icer";
  - b) On the bottom shelf of the "top-icer";
  - c) On the bottom shelf of the mechanical refrigerator.
- (3) Meats, and other foods, may be placed between these extremes of temperature.
- (c) Absolute cleanliness is essential.
  - (1) The ice refrigerator is cared for by
    - a) Washing at least once a week with a cloth dampened with cold water in which sal soda or borax has been dissolved. The drain pipe and trap must not be neglected. Strong smelling soaps should be avoided;
    - b) Immediately wiping up any food that
       is spilled and keeping the refrigerator dry;
    - c) Pouring a strong solution of sal soda through the drain pipe each week to remove the slime from the ice.

- (2) The mechanical refrigerator is cared for by
  - a) Applying the same rules for cleaning the food compartment as those suggested above for the ice refrigerator;
  - b) Defrosting. Directions vary with the make of refrigerator, and those given by the manufacturer should be carefully followed.
- 5. The selection of commercially preserved foods depends upon a knowledge of such sales terms as count, number of can, grade, brand, label. The housekeeper must also have some basis on which she may judge these foods.
  - A. Dried foods are sold in bulk or in the package. The wisdom of the use of sulphur in the preparation of these foods is a controversial one.
    - The term "count" when used in relation to dried foods sold in bulk denotes size and indicates the average number per pound.
      - (a) 30 to 40 count indicates a large size.
      - (b) 40 to 50 count indicates a medium size.
      - (c) 50 to 60 count indicates a small size.
    - 2. The terms "small", "medium", and "large" denote the size of dried foods sold in packages.
    - 3. Sulphur should not be considered as an adulterant, and is not harmful when used in normal amounts.

It preserves the color of the fruit, and acts as a preservative during the drying process.

- B. Canned foods are designated by number, grade, and brand.
  - 1. The size of cans is designated by number. Popular sizes are as follows:
    - (a) 8Z Short, which contains about a cup, and is used for fruits, vegetables and fish;
    - (b) 8Z Tall, which contains about one cup;
    - (c) 12 ounce cans an odd size of can containing about one and two-thirds cups, and is used for fruit juices;
    - (d) Number 300, which holds one and three-fourths cups, and is used for baked beans, spaghetti, and tomato juice;
    - (e) Number 1 Tall, which holds two cups, and is used for soups and fish;
    - (f) Number 2 can, which holds two and one-half cups, and is used for berries, corn, peas, and beans;
    - (g) Number 2-1/2 can, which holds three and onehalf cups, and is used for tomatoes, pumpkin, and beets:
    - (h) Number 3 can, which holds four cups, and is used mainly by home canners.
  - 2. The grade of canned foods is designated by name, the grading being based on the physical characteristics of the fruit and the thickness of the

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syrup. Wholesome foods are used in all grades.
Foods are packed in four grades.

- (a) Fancy indicates the highest quality. It is uniform as to size and color and is intended for table use. A fifty percent sugar syrup is used in canned fruits, except pears and tart fruits.
- (b) Choice or extra standard is made up of food of good quality, but not the best. It is also intended for table use. A forty percent sugar syrup is used.
- (c) Standard grade is not so carefully graded as to size, color, and ripeness. It is intended for cooking purposes - salads and soups. A twenty-five percent syrup is used.
- (d) Sub-standard grade is the lowest grade. It is the cheapest and used only for cooking purposes. A ten percent syrup is used.
- 3. The brand under which the food is sold is the manufacturer's name or trade-mark, and enables the housekeeper to choose food of the quality that she knows.
- 4. The label is important since it describes the contents of the can. The government requires that the label of the can state the name and weight of the contents, and the name and address of the manufacturer. In addition to this information

many canners are finding it advantageous to include on their label such information as the measure or count of the solid, the measure of the liquid, the density of the syrup, the intended use, and other grades and styles in which the same food is packed.

- C. Comparisons of costs should be based on
  - 1. The size of the products,
  - 2. The density of the syrup,
  - 3. The flavor, color and ripeness of the fruit,
  - 4. The proportion of liquid to solid.
- \*6. Housekeepers are dependent upon foods grown in distant sections of this country, and in foreign countries. They are dependent upon some form of protection against spoilage until it can be delivered to their door. Some of these foods are transported in refrigerator cars, others are dried, preserved by cold storage, by freezing, by frosting, or by canning.
  - A. Refrigerator cars are constructed of wood or metal, lined with wood, and insulated. Ice is usually the refrigerant, and it is sometimes mixed with salt to make it more efficient. The refrigerant is placed at the end of the car, and the food is placed at the center.
  - B. Dried foods, which are prepared by spreading the foods in the sun and allowing them to dry, are prepared and exported as follows:

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- 1. Apples from California, New York, and Washington;
- 2. Apricots from California;
- 3. Beans from Michigan and California;
- 4. Codfish from Massachusetts;
- 5. Figs from California;
- 6. Peaches from California;
- 7. Fish from the Scandinavian countries;
- 8. Dates from Turkey;
- 9. Raisins from Greece, France, and Spain.
- C. Canned foods, which follow the same general procedure as home canned foods, are prepared and exported as follows:
  - Apples from Washington, Pennsylvania, West Virginia, Virginia, New York, and Oregon;
  - 2. Applesauce from New York and Maine;
  - 3. Apricots from California;
  - 4. Asparagus from California;
  - 5. Beans, String, from Maryland, New York, and Wisconsin;
  - 6. Beans, Lima, from Delaware;
  - Beans and Pork from Indiana, New Jersey, and Pennsylvania;
  - 8. Beets from Wisconsin and New York;
  - 9. Berries from Washington and Oregon;
  - 10. Blueberries from Maine;
  - 11. Cherries from Michigan, New York, California,

Washington, and Oregon;

- 12. Clams from Maine and Massachusetts;
- 13. Corn in largest quantities from Illinois, Iowa, Maryland, and Minnesota; in smaller quantities from many states;
- 14. Greens from Mississippi and Arkansas;
- 15. Grapefruit from Florida;
- 16. Grapes from California;
- 17. Loganberries from Oregon;
- 18. Mackerel from California;
- 19. Milk in largest quantities from Wisconsin and New York; but very largely distributed throughout the United States;
- 20. Peaches from California;
- 21. Pears from California, Oregon, and Washington;
- 22. Peas from Wisconsin and New York;
- 23. Pimientoes from California and Georgia;
- 24. Plums from California and Michigan;
- 25. Potatoes, sweet, from Virginia, Maryland, and California;
- 26. Prunes from Oregon and Washington;
- 27. Pumpkin and Squash from Indiana;
- 28. Raspberries from Washington, Oregon, and New York;
- 29. Salmon from Alaska;
- 30. Sardines from California, Maine, and Massachusetts, and Scandinavian countries;

- 31. Shrimps from Louisiana;
- 32. Spinach from California;
- 33. Succotash from Maryland and Ohio;
- 34. Tomatoes in greatest quantities from Maryland and California, but very generally throughout the United States, also Italy;
- 35. Preserves from England;
- 36. Mushrooms from France, Russia, Italy and Japan;
- 37. Caviare from Russia;
- 38. Olives from Greece, Spain, and Italy;
- 39. Anchovies from Italy;
- 40. Canned crab meat from Japan;
- 41. Pineapple from Hawaii.
- D. Smoked fish, especially finnan haddie, is produced in
  - 1. Massachusetts,
  - 2. Pennsylvania,
  - 3. New York.
- E. Frosted foods are prepared near the source of production. These are a type of frozen foods, the difference being in the method of freezing, which produces tiny rather than the usual large crystals of ice, and thus prevent the destruction of the plant structure, as is the case in most frozen foods.
- \*7. The food supply is protected by the Pure Food and Drug Act.
  - A. Food is considered to be adulterated if
    - 1. It is dirty, decomposed, or contains any foreign material:

- 2. It contains any injurious preservative;
- 3. It is "mixed, colored, powdered, coated or strained" to conceal inferiority;
- 4. Any part has been removed;
- 5. It has been mixed with any substance to reduce its strength;
- 6. Any part is substituted in part or in whole for any substance naturally found in the food.
- B. Food is considered to be misbranded if
  - 1. It is an imitation of, or sold under the name of, another article:
  - 2. The label misleads the consumer;
  - 3. The amount in the container is not made known;
  - 4. By picture or statement the buyer is deceived.
- \*8. Housekeepers may prepare a canning budget just as they
  may prepare any other kind of budget. Such a budget is
  based on
  - A. The size of the family;
  - B. The estimated number of servings of canned foods throughout the year;
  - C. The number of weeks fresh foods are available in her community.

## Delimitation B

1. The principle of food preservation depends upon the fact that the spoiling of food is caused by the presence of certain elements and is retarded by the presence of others. Such a study involves consideration of:

- A. By canning and sealing in air-tight jars organisms are deprived of air which is essential for their growth;
- B. By storing at a temperature of 35 degrees Fahrenheit the growth of organisms is prevented;
- C. By heating to a temperature of 212 degrees Fahrenheit for at least ten minutes organisms are killed. Spores will withstand this temperature for several hours.
- D. By removing moisture, as in the drying of foods, organisms are deprived of an essential for their growth;
- E. By adding spices, vinegar, salt, sugar, or smoke, food is rendered unsuitable for the growth of organisms.
- 2. Two of the common methods of food preservation carried on in the home are canning and jelly making.
  - A. Canning is accomplished by the open kettle and cold pack methods.
    - Both processes have certain procedures in common, dealing with the proper selection of food and equipment for the work.
    - 2. The open kettle process is suitable for fruits and tomatoes. The directions for the open kettle method may be found in any of the reference books. Reference 2 gives a detailed account of the process, and is of special value to teachers.
    - 3. The cold pack process is suitable for fruits and tomatoes, and is the only safe method to use for

vegetables, meat, fish, and such food combinations as soups and stews. Directions for canning by the cold pack process may be found in any of the reference books.

- B. Success in jelly making depends upon the selection of fruit, and the procedure used.
  - 1. Fruit that is suitable for jelly making must be rich in pectin and slightly underripe.
  - 2. The process used in jelly making may be found in any of the reference books.
- Inferior preserved foods are evidenced by appearance and spoilage.
  - A. The poor appearance of canned foods is caused by discoloration, crushing, or shrinking of food, or by partially filled jars.
    - Canned foods will discolor, or lose their color if they are
      - (a) Exposed to the light red fruits and vegetables especially;
      - (b) Not thoroughly chilled in the cold dipping;
      - (c) Oversterilized;
      - (d) Allowed to stand in the air after the skins have been removed.
    - 2. Food will be crushed or broken if
      - (a) The jars are crowded when packed;
      - (b) They are over-blanched;
      - (c) They are not cooled before packing.

- Foods will shrink after they have been placed in the jar if
  - (a) The blanching is insufficient;
  - (b) The food is processed too long or at too high a temperature;
  - (c) The syrup is too heavy.
- 4. The jar will not be filled with liquid at the end of the processing period if
  - (a) The level of the water in the sterilizer falls below the top of the cover of the jar during the processing;
  - (b) The steam pressure is not constant;
  - (c) The food gases are not driven out during blanching, and the time allowed for cold dipping is not sufficient to allow the water to be absorbed to take the place of the food gas;
  - (d) The air bubbles are not removed.
- B. Canned foods will spoil if
  - Bruised or decayed food is used, as these contain bacteria;
  - 2. It is not sterilized immediately after packing (the warmth allows organisms to develop and causes a food spoilage known as "flat sour");
  - 3. Defective covers, jars, or rubbers are used so that the jars are not air tight;

- 4. Food is understerilized, either because the sterilization period is too short or because the temperature of the sterilizing medium is too low;
- 5. The jar is packed so tightly that the heat cannot penetrate;
- The jars are not completely sealed as soon as the sterilization is completed.
- C. Spoiled foods are detected by
  - The sound of air rushing out of the jar when it is opened - a slight explosion;
  - 2. A loosened cover;
  - 3. Bubbles of air, or a frothing in the jar;
  - 4. Darkened or discolored fruit of spongy appearance;
  - 5. Liquid that is cloudy;
  - 6. An unpleasant odor and taste. This, however, cannot be relied upon for all types of spoilage. The most dangerous type of food poisoning, known as botulism, cannot be detected by either taste or odor. Acid foods, as fruits and tomatoes, are not affected by this type of poisoning, and toxins in other foods are destroyed if the food is heated in an open saucepan for ten minutes. Canned foods, therefore, should not be tasted to determine their fitness for food.
- D. The quality of jelly is recognized by its color and flavor; by the presence or absence of evidences of

"weeping", fermentation, sugar crystals, sediment, and by its firmness.

- 1. A colorless, flavorless jelly results when the fruit used is lacking in color and flavor.
- 2. Sugar crystals will be found in jelly if
  - (a) The sugar is added too near the jellying point;
  - (b) Too much sugar has been used.
- 3. Jelly is said to "weep" when a liquid separates from the jelly and works through the paraffin to the top of the jar. This will be the result if the paraffin cap is too thick.
- 4. Jelly will ferment when an insufficient amount of sugar has been used.
- 5. Jelly will be cloudy if
  - (a) The fruit is immature, and therefore contains too much starch;
  - (b) The juice was not properly drained, or was forced through the jelly bag;
  - (c) The jelly cooled before it was poured into the glasses;
  - (d) The jelly was poured from too great a height;
  - (e) The juice contained too much pectin.
- 6. Jelly will be soft, or will not stiffen if
  - (a) It is undercooked;
  - (b) The pectin is destroyed by overcooking;

- (c) The pectin is destroyed by the use of too much sugar;
- (d) The pectin is destroyed by slow cooking;
- (e) The fruit lacks pectin.
- 7. Jelly will be tough if too little sugar is used.

### The Assignment

Problem 1. Shall we preserve foods, or shall we buy those that are commercially preserved?

The homemaker of today faces problems far different from those which her mother and grandmother faced. If your grandmother lived in the country and raised her own vegetables, her house, especially her kitchen, was larger than yours; she may have had what she called a "summer kitchen". Compare the kitchen in your home with one of a generation ago, its principal aspects, such as the fuel used and labor-saving equipment. Compare the storage room in your home with the storage space in the older homes. Ask some older person how commercially-canned foods compare with those that were on the market when she was young. Modern methods of transportation bring to our markets an ever increasing quantity and variety of fresh foods so that, if our budgets will allow the extra expense, we may buy fresh strawberries in January, if we so desire.

- A. Under what conditions would you advise homemakers to buy commercially-canned and preserved foods?
- B. Under what conditions would you advise her to do her own canning and preserving?

C. What are the advantages of being able to preserve foods? Problem 2. What causes food to spoil?

A common expression is that air causes food to spoil. Food placed in pure air would never spoil.

- A. What are the names of three organisms that cause food to spoil?
- B. What kinds of foods will each attack?
- C. How are some organisms helpful to man?
- D. What conditions are essential for the growth of organisms?

  Problem 3. How may we preserve foods?

In Problem 2 you found that there are three factors necessary for the growth of organisms. If we remove any one of these factors organisms cannot live, and therefore food is preserved. All methods of food preservation are based on one of these principles.

- A. Upon which of these principles are the following methods of food preservation based:
  - 1. Canning
  - 2. Cold Storage
  - 3. Freezing
  - 4. Drying
  - 5. Using preservatives
- Coating with wax, parrafin, vaseline, or storing in waterglass
- 7. Adding salt, vinegar, sugar, spice
- 8. Smoking
- B. Make a list of foods that are best adapted for each of the methods listed above.
- C. What are the advantages and disadvantages of each of these methods?

Problem 4. How shall we take care of the surplus from our gardens?

Corn, shell and string beans, peas, tomatoes, summer and winter squash, carrots, parsnips, rotatoes, onions, and turnips are the vegetables that are commonly raised in home gardens. Because of their low water content, the root vegetables do not spoil easily, and are not usually canned. Some people like to have a few cans of carrots on hand. Can you give a good reason for such procedure? Peaches, pears, cherries, and grapes are common fruits that are preserved. Jelly is made from apples, currants, and grapes.

### A. How is food canned?

- Before we can start the canning process there are some things that must be considered.
  - (a) The Jars Note the different types of jars that are pictured in reference 9.
    - (1) What type do you consider best for canning?
    - (2) Jars with cracks and chips should not be discarded. How may we find out whether or not a jar or cover is tight enough to use for canning?
    - (3) Sometimes through long use the bail over the top of the jar becomes loosened. How may it be tightened?
    - (4) Why must jars be sterilized before they are used? How is the sterilization of jars accomplished?
    - (5) Any good rubber is safe to use. How may

THE RESERVE TO THE PARTY OF THE

the quality of the rubber be determined?

- (b) The Food Would you select fruits and vegetables for canning that are
  - (1) Ripe, underripe, or overripe,
  - (2) Large, medium, or small in size,
  - (3) Perfect in shape, bruised, or seconds?
- 2. What is the cold pack method of canning? During the week of September twenty-seventh you will have an opportunity to can by the cold pack method. Be sure that you are ready to go on at that time. If you wish to, and your mother is willing, you may bring food to can for your own use at home. You may buy rubbers, sugar, or salt from me if you wish. Look over your jars carefully for cracks and chips. Vegetables are suggested for this lesson. Please let me know your plans if you are considering canning your own food.
  - (a) Directions for cold pack canning may be found in reference 9. Study these carefully and note the following points. The process divides into
    - (1) Blanching or scalding
    - (2) Cold dipping
    - (3) Peeling
    - (4) Packing into jars
    - (5) Filling jars with liquid
    - (6) Sterilizing
    - (7) Completing seal

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- (b) Rule a piece of paper so that you have three columns. In the first column list the steps in the cold pack canning process. In the second column write the directions for each step, and in the last column state what is accomplished by each step.
- (c) The water bath, oven, and pressure cooker are commonly used to sterilize foods.
  - (1) What is the temperature for each method of sterilization?
  - (2) Select a food that may be sterilized by all methods and compare the time needed for sterilization.
  - (3) What are the advantages of each of these methods?
  - (4) How much water is used in the kettle that is used for the water bath?
  - (5) Why should the jars not be allowed to touch the bottom of the kettle? What may you use for this purpose?
  - (6) What should be done when the water boils away?
  - (7) Sterilization does not start until the water is actually boiling. When do you start the timing of the sterilization period?

- (8) What are the directions for oven sterilization?
- 3. What is the open kettle method of canning? During the week of October fourth you will have an opportunity to can by the open kettle method. You may bring food from home for this lesson, as you did before, if you wish. Fruits or tomatoes are suggested for this lesson.
  - (a) Study the directions for open kettle canning found in reference 9.
  - (b) What will determine the density of the syrup to be used in canning fruits?
  - (c) How would you test the fruit to determine sufficient cooking?
  - (d) I suggest that you fill the jar with cooked fruit - be careful not to crush the fruit - add the syrup to nearly fill the jar, then remove the air bubbles by running a spatula around the inside of the jar, and refill the jar until it overflows with syrup.
- B. How is fruit made into jelly? During the week of October eighteenth you will have an opportunity to make jelly. You may do it for home use if you wish.
  - Study the directions for making jelly found in any of the books in the laboratory. The work divides into two main processes; the extraction of the juice, and

- the converting of the juice into jelly. In your notebook write the directions for making jelly, and give the reason for each step.
- 2. Describe three tests that you may use to determine the jelly stage.
- 3. Describe two methods used to "paraffin" jelly.
- Problem 5. What are some of the reasons for an inferior grade of preserved foods?

### A. What causes inferior canned goods?

- 1. Molds are prevalent on canned fruits. Are there any conditions under which fruits that have mold on them may be used?
- 2. Follow through each of the steps in canning, and pick out those which if improperly or carelessly done will cause the food to spoil.
- 3. It is important to remember that canned food must never be tasted to find out whether or not it has spoiled. The organism that causes the most serious form of food poisoning cannot be determined by tasting. The organism is known as the botulinus bacillus, and produces a food poisoning known as botulism. It is found in vegetables but seldom in fruits because of the acidity of fruits. What can you do to insure safety in using canned vegetables?
- 4. What is the appearance of home canned food that has spoiled?

- 5. What is the appearance of a tin can that has spoiled food in it? Is it safe to use a dented can?
- 6. Often times food in cans has not spoiled, but due to careless work the product is of low grade. How do you account for such defects as
  - (a) Faded or discolored food,
  - (b) A jar not being filled with liquid,
  - (c) A food that has shrunk badly after it is placed in the jar?

# B. What causes inferior jelly?

- 1. What may be the causes for jelly that will not stiffen when cooled?
- 2. Sometimes a syrup forms on top of the paraffin on a jelly glass. This is known as "weeping jelly". What is the cause of this?
- 3. Why is some jelly tough? Why is it sometimes so tender that it will not hold its shape when turned from the glass?
- 4. How do you account for sugar crystals in jelly?
- 5. What causes a cloudy jelly?

You have now finished the required work on preservation.

Check your papers to make sure that you have done all of the work to the best of your ability.

In the card index on my desk you will find suggestions for extra work which many of you will be interested in doing. Choose a topic which appeals to you and write your name and

group number in pencil on the back of the card. Have the topic ready to present to the class during the week of October eighteenth.

## Optional Activities

For the girl who likes to give work orally:

- Prepare a brief sketch of the history of food preservation, and present it to the class.
- 2. Discuss the methods of drying fruits and vegetables on a commercial scale.
- 3. Describe for the class the commercial canning of food.
- 4. The Birdseye Frosted Foods are a type of frozen foods.

  What can you tell us about the preparation of these foods?

  Where may they be purchased in Framingham? How do they compare in cost with foods preserved by other methods?
- 5. What is "Certo"? What is used in its manufacture? Can you find a recipe for homemade pectin that is recommended?
- 6. Develop the topic of "Condiments". The class will want to know what part of the plant is used for common spices, where the plants are grown, their preparation for market, and in what forms they may be purchased.
- 7. Tell the class about the construction and operation of a cold storage plant.
- 8. Describe the construction of an ice refrigerator. What materials are used for linings? For shelves? What is a refrigerator trap? Describe the care of the refrigerator.
- 9. Explain the action of an electric refrigerator.

- 10. Describe the action of a gas refrigerator.
- 11. How are refrigerator cars constructed? Are refrigerator cars unloaded in Framingham? If so, is it possible for members of the class to inspect one?
- 12. What is a pressure cooker? How is it helpful in canning?

  Demonstrate its use.
- 13. Many canners mark their products to show a grade. What does each grade signify?
- 14. Explain the sizes of cans used for commercially canned foods. How do you determine the economical size to buy?
- 15. What do the labels on canned goods tell us? What information is not given on cans that would be of benefit to the consumer?
- 16. How does the Pure Food and Drug Act protect the consumer of food? What further legislation is necessary?
- 17. How does the nutritive value of commercially canned goods compare with fresh foods? With home canned foods?
- 18. What canned foods are imported? Where do these foods come from?

For those who like to work with figures:

- 19. In the September, 1937 "Forecast" there is a canning budget which is worked out to meet conditions of a town in Virginia. Read the article. How did they determine how much canned food is necessary? Make a canning budget for a family of five living in Massachusetts.
- 20. Organize a group to compare costs of canned foods. Each

of you may be able to contribute a can of food to illustrate different brands. Use cans of the same foods for your problem. What should you consider in determining the cost?

Make a chart using the information that you have collected.

For the girl who likes to draw:

- 21. Prepare a map that will show where canning factories are located in the United States, and what products are canned in the locality.
- 22. Draw a picture or a diagram which will show the parts of plants that are used for spices.

For the girl who likes to do handwork:

- 23. Make a model of a well-arranged storage closet for canned foods. Include also storage spaces for vegetables that may be stored without canning.
- 24. Make a chart that will show the different types of refrigerators. Devise some means of showing a comparison of costs of operation.
- 25. Prepare canned food, jelly, pickle, jam, or something similar. Show your work to the class for suggestions. Compare the cost of your product with the same kind of product that is carried in a local store. Submit your figures.
- 26. Make a chart that will show a comparison of cost of various methods of preservation, canning, drying, freezing, frosted, cold storage.
- 27. Find pictures in magazines that will show the variety of food that is canned. Mount your pictures.

- 28. Prepare a recipe book on food preservation.
- 29. We usually serve canned fruit as sauce; or reheat vegetables for serving; jelly and pickles as relishes. Show by means of pictures other uses for canned foods, jams, and jellies.
- 30. Prepare an exhibit of the utensils used in the canning process.

For the girl who likes to organize work, and work with others:

31. Organize a group of girls who would like to visit the
Whipple Canning Factory in Natick. Tell me your plans so
that I may make arrangements with the firm. Note: Topic
20 and part of 11 may also be grouped here.

## Test 1.

In the following paragraphs each space is numbered. Place the number of the space on the line following the word or phrase that correctly fills the space.

(1) will cause food to	bacteria, warmth and air	(	)
spoil. It is essential that	microorganisms have been		
organisms be supplied with	killed	(	)
(2) for growth and develop-	air, warmth and moisture	(	)
ment. Foods which are canned	organisms cannot live in		
will not spoil because (3)	such foods	(	)
and (4) . Foods that are	moisture is removed	(	)
dried will not spoil because	34 degrees Fahrenheit	(	)
(5) . Food that is frozen	40 degrees Fahrenheit	(	)
must be kept at a temperature	bacteria, yeasts, molds	(	)

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not higher than (6), and	air is excluded from jar	(	)
that placed in cold storage	00 degrees Fahrenheit	(	)
not lower than (7). Smoke			
and sugar preserve food because			
(8)			
Canned foods are advantage-	twice	(	)
ous because they are (9) serve.	washed	(	)
Transportation is (10) expen-	loose	(	)
sive than for dried foods. The	less	(	)
cost of drying foods is (11)	time and effort	(	)
expensive than that of canning	cheaper	(	)
foods. The dried fruit is (12)	ready to	(	)
for serving, and takes more	highest	(	)
(13) . Dried foods are the	frosted	(	)
(14) in price than those pre-	pickled	(	)
served by any method. (15)	more	(	)
are the hardest for the manu-	rubber	(	)
facturer to transport to the	not prepared	(	)
customer. Jars must be (16)	washed and sterilized	(	)
before using. This is accom-	boiling 10 minutes	(	)
plished by (17). Rubbers	once only	(	)
may be used (18). Air will	cover	(	)
enter the jar if the (19) is	bringing to boiling		
a poor one; if the latter and	point	(	)
also the (20) does not fit	chips	(	)

properly; if there are (21)	tight	(	)
in the jar or cover, and if the			
bail is <u>(22)</u> .			
In the cold pack method	icy	(	)
of canning the food is placed	stretch	(	)
in the jar (23) sterilization	after	(	)
process and in the open kettle	food is put in water	(	)
method (24) the steriliza-	scalding	(	)
tion. The purpose of blanching	shrink	(	)
is to (25) the food; to	drive out	(	)
_(26)_ cook it; to <u>(27)</u> the	blanching	(	)
gas in the food; and to (28)	sets	(	)
the skins. Cold dipping makes	lukewarm	(	)
the food (29) to handle;	water boils	(	)
(30) the color; and gives an	retain	(	)
opportunity for the water to	before	(	)
(31) the food gases. Water	partially	(	)
for cold dipping should be of	replace	(	)
an (32) temperature. One	easier	(	)
begins to count the time for	harden	(	)
blanching when (33). It is	loosen	(	)
not necessary to boil food			
when <u>(34)</u> takes the place			
of blanching.			

fruits are packed in jars (35) completely fill tightly than vegetables because vege-	(	)
tables, especially corn and beans, pressure cooker	(	)
are likely to (36) in processing. shrink	,	)
	,	,
Boiling (37) is added to the packed open kettle	(	)
vegetables and <u>(38)</u> to the packed high	(	)
fruits. In either case, enough water bath	(	)
should be added to <u>(39)</u> the jar. sugar syrup	(	)
A light syrup contains (40) sugar less	(	)
than heavy one. In the <u>(41)</u> low	(	)
method of canning the jar is sealed oven	(	)
just as soon as it is packed, and in delayed	(	)
(42) method not until after swell	(	)
processing is (43). Sterilization water	(	)
is accomplished by keeping food at a cover food	(	)
(44) temperature for a definite cold pack	(	)
time. One has the lowest temperature done immediately	(	)
for sterilization in the <u>(45)</u> , next		
in the (46), and the hottest in the		
(47)		
At the end of the process- water bath	(	)
ing period, the jar should be too high temperature	(	)
full of liquid. If it is not, insufficient	(	)
the trouble may be due to the cold dipping	(	)
fact that the water level in pressure	(	)

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the sterilizer <u>(48)</u> of jar;	open kettle	(	)
(49) blanching; insufficient	over	(	)
time allowed for <u>(50)</u> ; not	fell below the opening	(	)
removing <u>(51)</u> ; and <u>(52)</u>	cloudy	(	)
during processing in the	air bubbles	(	)
pressure cooker. The (53)	firm	(	)
method of canning is suitable	skins	(	)
to use for fruits, but is not	boiling in a kettle	(	)
satisfactory for vegetables.	allowing pressure to vary	7(	)
In the open kettle method of	food is thoroughly		
canning the sterilization of	heated through	(	)
the food takes place during	cold pack	(	)
the (54). The sterilization	tasted before turning		
in this method is complete	from jar	(	)
when (55). It should then	packed immediately	(	)
be (56). If the liquid	boiled before tasting	(	)
appears (57), and the fruit	boiling point is reached	(	)
is <u>(58)</u> the fruit is unfit	cool before packing	(	)
for use. Canned food should	clear	(	)
be <u>(59)</u> .	soft	(	)
(60) is responsible for the	ne boiling the fruit		
stiffening of jelly. In making	in water	(	)
jelly, the juice is first extract	ted sugar	(	)
from the fruit by (61). It is	boiled	(	)
then separated from the pulp by	a wire strainer	(	)

allowing it to filter through (62). one	(	)
The next step is to (63). Before pressing fruit	(	)
the juice is combined with the sugar measure juice	(	)
the juice should be <u>(64)</u> , and the acid	(	)
sugar (65). Jelly should be cooked heated in oven	(	)
(66). (67) cup of sugar to each one-half	(	)
cup of juice is the usual proportion flannel jelly bag	; (	)
to use. quickly	(	)
boil juice	(	)
pectin	(	)
slowly	(	)
The most accurate way to much	(	)
determine the jelly stage is shows it has thickened by	у	
to use a (68). A bit of cutting away from the		
jelly may be removed to (69) spoon	(	)
to see if it will stiffen on pectin	(	)
cooling. If the syrup in cold water in a glass	(	)
dropping from a spoon (70), a cold plate	(	)
the jelly has cooked sufficient- sugar	(	)
ly. Jelly that does not stif- too much, too little,		
fen may be caused by too much or too slow	(	)
(71) or too little (72) in thermometer	(	)
the juice; or by (73) cooking. straining	(	)
When too much sugar is used, forms a thread	(	)
the consistency of the jelly syrupy	(	)

will be (74). Too much	too much, too little, or		
sugar will also cause <u>(75)</u>	too fast	(	)
in the jelly. Sugar crystals	tough	(	)
may be caused when the sugar	too near jellying stage	(	)
is added (76). Cloudy jelly	coats the spoon	(	)
results if the (77) is care-	cooking	(	)
lessly done; if the fruit is	crystals	(	)
(78); or if one adds too	underripe	(	)
(79) sugar.	before some of the water		
	has been evaporated	(	)
	little	(	)
	too ripe	(	)
	fork	(	)
	barometer	(	)

How many of the following questions can you answer? They are based on oral reports and on material that has been posted on the bulletin board. Here is an opportunity to raise your grade.

The commercial canning of 3-1/2 cups ()

food closely resembles that of 50 degrees Fahrenheit ()

(80). Tomatoes are canned California, Utah,

in (81); peas in (82), Arkansas ()

corn in (83). The cold stor- cold pack method ()

age plants are kept at a tem- number of servings ()

perature above (84). Canned Illinois, Minnesota,

sliced pineapple and peaches Indiana, Maine ()

are usually packed in (85)	fancy	(	)	
size cans, and peas and beans	Wisconsin, New York,			
in (86) size. A number 2	Illinois, Minnesota	(	)	
can holds approximately (87).	number 2	(	)	
The cost of food per cup will	weight	(	)	
(88) as the size of the can	35 degrees Fahrenheit	(	)	
increases. Food that is care-	decrease	(	')	
fully graded and selected for	number 2-1/2	(	)	
high quality is known as (89)	2-1/2 cups	(	)	
grade. For soups I should	increase	(	)	
choose a (90) grade. The	standard	(	)	
label always tells (91).				
When one makes a canning	petcock	(	)	
budget the most important con-	size of family	(	)	
siderations are the (92)	pressure gauge	(	)	
and (93) . A pressure cooker	clamp	(	)	
cooks (94) the boiling point.	climate	(	)	
The (95) indicates the	below	(	)	
pressure; the (96) lets off	ventilation	(	)	
the extra steam; and the (97)	number of weeks before to	he		
holds the cover in place. A	fresh food will again	be		
well-designed storage closet	in the market	(	)	
allows for (98). The walls	ingulated	(	)	
	Insuraced	`	,	
should be (99).	number of servings of	ì		
should be (99).		Ì		

	above	(	)
	safety valve	(	)
(100) perfected the can-	large	(	)
ning process and won a prize	number	(	)
for finding a method of food	fat	(	)
preservation. (101) had snow	process	(	)
carried from the mountains to	ice	(	)
chill his food. (102) and	seedless	(	)
(103) were the earliest pre-	flavor be retained	(	)
servatives used. A great deal	Appert	(	)
of food is dried in (104).	spices	(	)
The count in prunes refers to	Nero	(	)
(105); 50 - 60 prunes meaning	in cities	(	)
(106) per pound. (107)	California	(	)
raisins are those from which	salt	(	)
the stones have been removed.	small	(	)
The Birdseye foods got their	size	(	)
name from (108). When nature	seeded	(	)
freezes food (109) ice crys-	cost	(	)
tals form which (110) the	breaks	(	)
structure of the food and	a man who perfected the		
allows the (111). Birdseye	process	(	)
processing plants are (112).	juices to be lost	(	)
	near the places of		
	production	(	)

	strengthens	(	)
	Lord Bacon	(	)
	New York	(	)
Certo is used to (113).	ripened	(	)
(114) is used in its manufac-	vegetables	(	)
ture. Another word for spices	leaves	(	)
is (115). Different parts of	aid in the process of		
the plant are used for spices.	jelly-making	(	)
Cinnamon and cassia are manu-	condiments	(	)
factured from the (116); cloves	flower buds	(	)
from the (117); sage, savory	seeds	(	)
and mint from the (118); mus-	preserve jelly	(	)
tard, allspice, and nutmeg are	seed covering	(	)
the <u>(119)</u> ; mace the <u>(120)</u> ;	unripened	(	)
ginger the <u>(121);</u> white	bark	(	)
pepper from the (122) berries.	root	(	)
	fruit	(	)
(123) is the most costly	air	(	)
method or preservation, and	high quality	(	)
(124) the cheapest. The Pure	canning	(	)
Food and Drug Act insuresthe	frozen	(	)
customer of (125) food. The	gas	(	)
mechanical refrigerators make	frosting	(	)
use of the fact that when a	wholesome	(	)

(126) changes to a (127) it	drying	(	)
absorbs heat. This heat is	inside of refrigerator	(	)
obtained from the (128).	low cost	(	)
	liquid	(	)
The walls of the refrig-	melt	(	)
erator are lined with a	wire	(	)
material that is a (129) of	remain unmelted	(	)
heat. Shelves that are most	enamel	(	)
durable are made of <u>(130)</u> ;	directly below	(	)
those which provide for the	non-conductors	(	)
best circulation of air are	slate	(	)
made of (131). In order to	beside	(	)
cool the refrigerator the ice	conductor	(	)
must (132). In the side-ice			
type of refrigerator, the			
coldest part is (133) the			
ice.			

#### Test 2.

Read the following statements carefully. Choose the part which you believe completes the statement correctly, and place the letter of the part chosen on the line following the number of the question.

# 1. Food is spoiled by

a. sun
b. moisture
c. air
d. bacteria
e. cold

1.

2.	If organisms are to grow and develop we must	
	supply	
	a. a high temperature and water b. air, moisture, and warmth c. extreme cold and oxegen d. dry atmosphere and air e. a vacuum, moisture, warmth	2
3.	Canned foods do not spoil because	
	<ul> <li>a. one uses a low temperature for sterilization</li> <li>b. a hot liquid is added</li> <li>c. the food is stored in a cold place</li> <li>d. microorganisms are killed, and the food is protected in air-tight jars</li> <li>e. jars are sealed</li> </ul>	3
4.	Dried foods are preserved because	
	<ul> <li>a. moisture in the food which is essential for life is withdrawn</li> <li>b. the sun has made the food sterile</li> <li>c. sulphur is used in the drying process, and it acts as a preservative</li> <li>d. sugar is added</li> <li>e. fruit is tightly packed in boxes</li> </ul>	Jı
_		4
5.	Foods that are kept in cold storage  a. are kept at 32 degrees Fahrenheit  b. are kept at a temperature below freezing  c. should thaw before they are used  d. are frozen quickly  e. do not freeze	5•
6.	Foods to which vinegar and spices are added do	
	not spoil because	
	a. bacteria cannot live in condiments b. the food is cooked c. the food is stored in a sealed jar d. condiments kill organisms e. there is considerable liquid in the food	6
7.	The cooking of food in canning is	
	<ul><li>a. done after it is placed in the jar in the open kettle method of canning</li><li>b. done before it is placed in the jar in cold pack canning</li></ul>	

	<ul> <li>c. done in the jar in cold pack canning</li> <li>d. started before it is placed in the jar and completed in the jar in either method</li> <li>e. completed before it is placed in the jar in either method</li> </ul>	7
3.	Blanching	
	a. helps food retain its flavor b. thoroughly cooks food c. holds gases in foods d. shrinks food e. tightens skins	8
9.	Cold dipping will	
	<ul> <li>a. best be accomplished by using lukewarm water</li> <li>b. destroy bacteria</li> <li>c. make food easier to handle</li> <li>d. shrink food</li> <li>e. take out the color</li> </ul>	9
LO.	One should pack jars	
	a. tightly in the case of corn and peas b. tightly in the case of tomatoes and peaches c. loosely when packing pears and apples d. always to the top of the jar e. so that the food will touch the cover	10
Ll.	Liquid that is added to packed food should be	
	<ul> <li>a. a sugar syrup for vegetables</li> <li>b. a thin syrup made with one cup of water and one cup of sugar</li> <li>c. added until it reaches the neck of the jar</li> <li>d. lukewarm to avoid cracking the jar</li> <li>e. added until it runs over the top of the jar</li> </ul>	11
12.	Certain methods of food preservation have advan-	
	tages over other methods	
	<ul> <li>a. frosted foods are easier for the dealer to handle, while cold storage foods are more difficult</li> <li>b. the old-fashioned frozen foods more nearly resemble fresh foods than foods preserved by any other method</li> <li>c. canned foods are purchased ready to serve,</li> </ul>	
	while dried foods take more time to prepare	

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	d. frosted foods and dried foods are the least expensive	
	e. cold storage foods and dried foods are the easiest to transport	12
13.	The rubbers that are used in canning	
	<ul><li>a. may be used until they are worn out</li><li>b. may be used twice</li><li>c. may be used only once</li></ul>	
	<ul> <li>d. should not be elastic</li> <li>e. are necessary to prevent the jar and cover from rubbing together and cracking</li> </ul>	13
14.	Air will enter the jar if the	
	<ul> <li>a. bail is too tight</li> <li>b. food is not thoroughly cooked</li> <li>c. cover does not fit securely</li> <li>d. food is cold when placed in the jar</li> <li>e. liquid does not cover the food</li> </ul>	14
15.	The clamp is adjusted to completely seal the jar	
	<ul> <li>a. before the jar is placed in the sterilizer</li> <li>b. before the liquid is added</li> <li>c. when the jar is cool in the open kettle method</li> <li>d. as soon as the jar is packed in the cold pack method</li> <li>e. at the end of the sterilization process</li> </ul>	15
16.	Jars may be sterilized by	
	<ul> <li>a. placing them in the sun</li> <li>b. washing them in soapy water</li> <li>c. washing and boiling for ten minutes</li> <li>d. pouring boiling water over the jars</li> <li>e. placing them in cold water and bringing them to the boiling point</li> </ul>	16
17.	We may sterilize food by	
	a. using a pressure cooker, oven or water bath	
	<ul> <li>b. keeping food below the boiling point</li> <li>c. freezing the food</li> <li>d. chilling the food</li> <li>e. drying the food</li> </ul>	17

18.	Wate	er or liquid should fill the jar at the end of	
	the	canning process. If it does not	
	b. c. d.	the food may have been over-blanched the cold dipping period may have been too long the jar may have been a poor one the food may have been overripe the water in the sterilizer may not have covered the jar	18
19.	It	is not safe to test canned foods for spoilage	
	by		
	b.	tasting them noting color and appearance of the solid and liquid	
	d.	smelling them heating them feeling of them	19
20.		ar with a chip or crack	
	b. c.	may be used if it is dipped in paraffin be- fore storing may be used if the cover is perfect may be used in the cold pack process but not in the open kettle method may be used if the break has no splintered glass	
	e.	cannot be used with safety	20
21.	In s	selecting fruit for canning it is best to	
	choc	se fruit which is	
	b. c. d.	green and hard slightly underripe overripe very soft and juicy has a few decayed spots on it	21
22.	Tn t	the cold pack method of canning, the cleaned	
		prepared fruit is	
		placed in boiling syrup and cooked until it is well heated through, then sealed in jars placed in boiling syrup and cooked until it is tender but not "mushy", then packed in jars, and syrup is added to fill the jars.	
		, , , , , , , , , , , , , , , , , , , ,	

. . .

The whole is then sterilized.

c. blanched, cold dipped and packed in jars. The jars are filled to overflowing with syrup, and the rubber and cover is adjusted and sealed

d. boiled for a few minutes then dipped in cold water until the food is thoroughly chilled, and packed in jars. Boiling liquid is added, the air bubbles are removed, and the jar is refilled to overflowing with juice. The rubber and cover are adjusted but not completely sealed. The jar is sterilized . and is then completely sealed.

e. cooked in boiling water until tender and packed in jars. Syrup is added until the jar is filled and the rubber and cover are adjusted. The whole is placed in a kettle of water which is kept just below the boiling point during the sterilization period.

22.

### 23. In canning by the open kettle method the fruit is

- a. packed in sterile jars. Syrup is added to fill the jars, the cover and rubber are adjusted and the whole is sterilized
- b. placed in boiling syrup and cooked until tender then packed in sterile jars. The jar is filled with syrup, the air bubbles are removed and then refilled with syrup and sealed.
- c. placed in hot syrup and blanched, then cold dipped and packed in sterilized jars; enough water is added to cover the food: the jar is partially sealed and placed in the oven to sterilize and completely sealed as soon as it is taken from the oven

d. heated in the syrup until the fruit is tender, placed in sterile jars and sealed when the jar is cool

e. placed in cold syrup and heated to the boiling point, then sealed in clean, dry jars

## 24. A type of food spoilage known as "flat sour" is

### most likely to develop if

- a. the jar is defective
- b. the filled jars are not sterilized immediately
- c. jar is packed too loosely
- d. jars are completely sealed before sterilizing
- e. air discolors the food before it is canned

24.

25.	Canned food will loose color if the	
	a. jar is packed too loosely b. fruit is overripe c. syrup is too heavy d. food is stored too long e. food is placed in direct sunlight	25•
26.	An indication that the food in a tin can or	
	glass jar has spoiled is	
	<ul> <li>a. the sound of an inrush of air when the jar is opened</li> <li>b. air bubbles in the jar</li> <li>c. a jar with a tight cover</li> <li>d. a dent in a tin can</li> <li>e. a bulging at each end of the tin can</li> </ul>	26
27.	The juice is extracted from the fruit in making	
	jelly by	
	a. pressing b. soaking in cold water c. soaking in hot water d. adding the sugar and allowing it to stand e. boiling in a small quantity of water	27
28.	The extracted juice is converted into jelly as	
	follows:	
	<ul> <li>a. the measured sugar is added to the juice and the whole is boiled until the jelly stage is reached</li> <li>b. the juice containing the sugar which was used to draw the juice from the fruit is boiled until the jelly stage is reached</li> <li>c. the juice is measured and allowed to boil for several minutes then the correct amount of sugar is added to the juice and the whole is cooked until the jelly stage is reached</li> <li>d. the juice is measured and boiled until the jelly stage is reached, and the sugar is added just before it is removed from the fire</li> </ul>	
	e. the juice is measured and boiled for several minutes. A measured amount of sugar is heated and added to the juice and the whole cooked until the jelly stage is reached	28.

29.	Jel	ly will not stiffen if it does not contain	
	b.	acid d. protein sugar e. starch pectin	29
30.	If s	sugar crystals are found in jelly, one has	
	prol	pably	
	b. c. d.	not cooked the juice long enough added the sugar before enough of the moisture has been evaporated cooked juice too long before adding the sugar added too little sugar used a fruit that is too sweet	30
		usual proportion of sugar to use with one of juice is	
	a. b. c. d.	one-fourth cup one-half cup one cup one and one-half cups two cups	31
32.	The	reasons that jelly may not stiffen are	
	b.	the juice may have been over-cooked, cooked too slowly, or contained too little pectin the juice may have been under-cooked, cooked too quickly, or contained too little pectin the juice may have been chilled, under-cooked, or have had too much sugar added the sugar may have been added before the juice had cooked and then boiled too rapidly	
	e.	the juice may have stood too long before it was used, it may have been boiled too slowly, or the fruit may have been green	32
33.	The	sugar used in jelly should be	
	b. c. d.	added to the juice before it boils cold when added to the juice added just before the jelly stage is reached hot when added to the juice	
	e.	cooked with the fruit	33

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34.	Jelly will be cloudy if it is	
	a. not properly strained, and if the jelly is over-cooked	
	b. under-cooked and the fruit is underripe c. made from overripe fruit, and the jelly is disturbed during the cooling	
	d. under-cooked and too much sugar is used e. made from acid fruit	34
35.	The jelly stage is reached when	
	<ul> <li>a. a drop in cold water becomes firm</li> <li>b. the syrup threads</li> <li>c. a bit of the syrup thickens when it is dropped on a cold plate</li> </ul>	
	d. the mixture coats the spoon	
	e. the mixture boils over	35
	How many of the following questions can you answe	r? They
are	based on the special reports, and on the material	that was
post	ed on the bulletin board. Here is an opportunity	to raise
your	grade.	
36.	A prize for the development of a method for	
	preserving food by canning was awarded to	
	a. Napoleon Bonaparte b. Nicholas Appert c. Lord Bacon	
	d. a Spanish nobleman e. Louis Pasteur	36
37.	Snow was brought from the mountains to be used	
	as a refrigerant for	
	a. Nero b. Julius Ceasar	
	c. Cleopatra	
	d. the kings of Egypt	77
	e. Louis XIV	37
38.	In the commercial drying of fruits, discolora-	

tion is prevented by using

	a. hot air b. cold air c. sulphur d. hot water e. fruit that is underripe	38	
39.	The term "count" as used when referring to prunes		
	means the		
	a. number of hours that it took to dry the fruit b. food value c. cost per pound d. approximate number per pound e. amount of shrinkage due to drying	39	
40.	The Birdseye foods are preserved because they are		
	<ul><li>a. canned</li><li>b. frozen</li><li>c. dried</li><li>d. kept in cold storage</li><li>e. kept in air-tight containers</li></ul>	40	
41.	Birdseye foods		
	<ul> <li>a. have no waste</li> <li>b. require a longer cooking</li> <li>c. are expensive since they have a great deal of waste</li> <li>d. are frozen slowly so that large ice crystals will form in the food</li> <li>e. may be purchased in large quantities by the housekeeper and stored indefinitely</li> </ul>	41	
42.	Certo is used to		
	a. preserve fruits b. preserve jelly c. stiffen jelly d. thicken syrup used in canning e. add color to jellies	42	
43.	Spices are prepared for market by drying parts		
	of the plant. Common ones are		
	<ul> <li>a. mustard from the seed, and cinnamon from the bark of a tree</li> <li>b. ginger from the stem, and nutmeg from the leaves of a tree</li> </ul>		

	<ul> <li>c. pepper from the fruit, and mace from the flower of a shrub</li> <li>d. clove from the berry, and sage from the leaf of a shrub</li> <li>e. cassia from the bark, and salt from the stem of a plant</li> </ul>	43
44.	When one uses a pressure cooker for canning	
	a. the food must cook for a longer time b. the food will cook at a higher temperature c. the food will cook at a lower temperature d. more heat is necessary than with any other form of sterilization e. blanching is unnecessary	44
45.	A storage closet for food should	
	<ul> <li>a. have double walls and good ventilation</li> <li>b. be located near the boiler to keep the food from freezing</li> <li>c. be located on the south wall of the cellar where it will get the sun part of the day</li> <li>d. have a temperature below freezing</li> </ul>	
	e. be kept very moist	45
46.	A refrigerator is cold because	
	<ul> <li>a. ice is placed in the refrigerator</li> <li>b. it is well insulated</li> <li>c. of a circulation of air</li> <li>d. the doors are kept closed</li> <li>e. heat from the refrigerator is used to melt the ice</li> </ul>	46
47.	The coldest part of the ice refrigerator is	
	<ul> <li>a. directly below the ice in the side-icer type</li> <li>b. opposite the ice in the side-ice type</li> <li>c. in the middle of the large compartment in the side-ice type</li> <li>d. bottom shelf in the top icer</li> </ul>	
	e. middle shelf in the top icer	47
48.	There should be a definite place in the refriger-	
	ator for each type of food	
	a. butter and milk should be kept near the top of the large compartment in the side icer b. meat and fish should be kept under the cold air drop in the top icer	

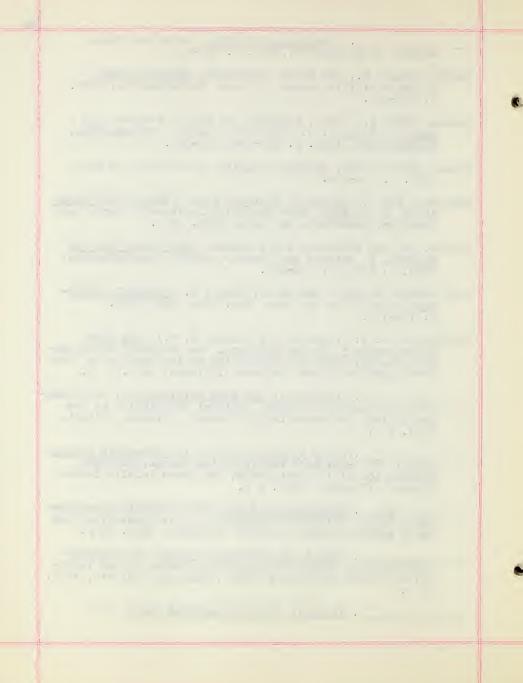
	d. :	fruits and vegetables should be kept on the middle shelf of the top icer butter and milk should be kept in the coldest part of either type leftovers should be kept in the compartment with the ice	48
49.	The 1	points most important to consider when one	
	is s	electing a refrigerator are the	
	b. c. i	materials used in the construction throughout, and the thoroughness and ease in cleaning the interior outside finish and the place where the refrigerator is to be installed manufacturer and the initial cost color in relation to the color scheme of the kitchen, and the cost of operation size and ease with which the refrigerator may be moved from one place to another	49
50.	In a	mechanical refrigerator the refrigerant	
	b. : c. :	is sealed into the food compartment is ice should be non-poisonous and non-explosive must be replaced often causes frost to collect on the unit	50
51.	When	one buys canned corn	
	b. 1	it will be packed in a number 3 can the can will hold approximately two and one-half cups it will be packed in an enamelled can the chances are that it was packed in California it is convenient to know that it can be purchased in only one style of pack	51
52.	The	"choice" grade of canned goods is	
	b. a	the best quality that may be purchased a product suited only for cookery, and not intended for table use intended for table use the lowest quality that may be purchased a food that is not wholesome	52

53.	Most of our manufacturers do not place the fol-					
	lowing information on the label of their products					
e h	a. weight b. name of manufacturer c. brand name d. amount and density of syrup e. picture of contents	53				
54.	The Pure Food and Drug Act protects the consumer					
	against					
	a. low grade food b. adulterated and misbranded foods c. food lacking in nutritive value d. food canned in "sweat shops" e. food canned in foreign countries 54.					
55.	A housekeeper bases her canning budget on					
	<ul> <li>a. the amount of money she has</li> <li>b. the amount of time she may spend canning</li> <li>c. the estimated number of servings of fruits and vegetables for the time fresh ones are not available</li> <li>d. the size of her garden</li> <li>e. the quantity of fresh fruits available in the local markets</li> </ul>					

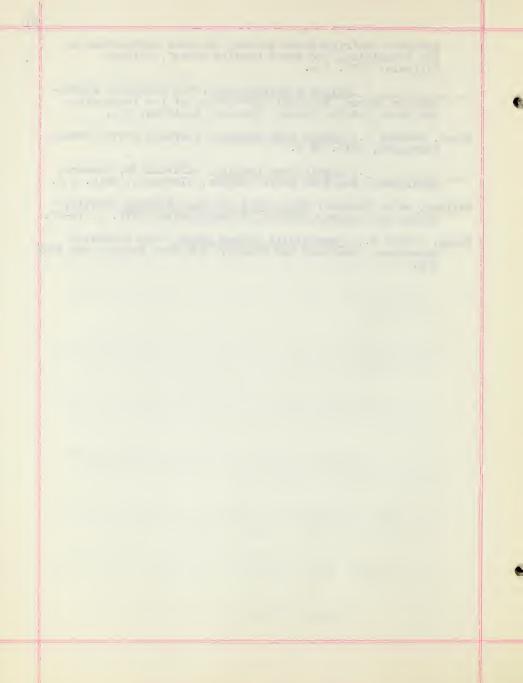
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# CHAPTER III CANDY-MAKING

## The Unit

The ability to make hard candies, and such creamy candies as fudge and penuche, and an understanding of certain facts and principles underlying the art of candy-making such as:-candies are divided into two classes, crystalline and non-crystalline; the controlling of crystallization is the most important point in candy-making; the hardness of candy is determined by the temperature to which the candy is cooked, certain physical tests may be learned to enable one to cook candy to the proper stage; common failures are grainy candy, cloudy candy, candy that is too soft, sticky or gummy, and all may be avoided by the proper manipulation of materials.

#### The Delimitation

- 1. Candy is divided into two classes:
  - A. In the making of non-crystalline candy the recrystallization of sugar has been prevented. Taffies, Christmas candy, and brittles are examples of this group.
  - B. In the making of crystalline candy the sugar has been recrystallized into large coarse crystals as in rock candy; or into small crystals as in the case of fudge, penuche and fondants.

- Success in candy-making depends upon certain principles of sugar cookery.
  - A. Hard candies or non-crystalline candies must be cooked to a high temperature.
    - (1) The "crack" stage 290 degrees Fahrenheit is used for taffies. A bit of the candy solution dropped in cold water will become hard but not brittle.
    - (2) The "hard crack" stage 350 degrees Fahrenheit is used for brittles. A bit of the solution when dropped in cold water forms a brittle mass.
  - B. Cream or crystalline candies are cooked to a lower temperature than hard candies.
    - (1) The "thread" stage 230 degrees Fahrenheit is used for frostings, and may be determined by allowing the solution to drop from a fork. The last drop is the test drop, and should leave a thread an inch long on the fork.
    - (2) The "soft ball" stage 238 degrees Fahrenheit is used for fudge and penuche. A small amount of the solution when dropped in cold water will hold together.
    - (3) The "hard ball" stage 254 degrees Fahrenheit is used for caramels. When some of the solution is dropped in cold water the ball that forms is hard enough to be molded.

- C. The temperature at which candy is beaten determines whether it will be smooth and creamy, or coarse and grainy.
- D. Hard candies require a larger amount of inverting substance than creamy candies.
- E. The rate at which the candy is cooked determines the firmness and success of the finished product.
- 3. Sugar, a liquid, and an inverting substance are the essential ingredients in candy-making. To this may be added extracts, butter, chocolate, nuts, raisins, gelatine, and other desirable materials to give flavor and variety to the finished product.
- 4. Three common types of inferior candy result from improper handling of materials.
  - A. Candy will be coarse and grainy in texture if:
    - (1) The candy boils before the sugar is dissolved;
    - (2) The solution is stirred during the cooking;
    - (3) The solution is beaten before it has cooled;
    - (4) The sugar crystals are not washed from the pan during the cooking process.
  - B. Candy will not harden if:
    - (1) It is not cooked to the proper temperature;
    - (2) Too much inverting agent is used;
    - (3) It is cooked too slowly.
  - C. Hard candy will become sticky on standing if too much inverting agent has been used.

## The Assignment

Problem 1. How do we read a candy thermometer, and test it for accuracy?

A candy thermometer if used correctly is a great aid in candy-making because it tells one when the candy has cooked sufficiently. Handle the thermometer carefully as it is an expensive piece of equipment, and may be broken easily. Avoid changing it suddenly from one temperature to another, as this change will cause it to break.

- A. We study the thermometer before we attempt to use it.
  - (1) Locate the mercury, which should be near the 70 degree mark.
  - (2) Do the marks on the thermometer that you are using indicate a single degree, two degrees, or five degrees?
- B. We test it for accuracy in the following manner:
  - (1) Clip the thermometer to the side of the saucepan.

    Fill the saucepan half full of water. Do not let the thermometer touch the bottom of the pan, but be sure that the water covers the bulb of mercury.
  - (2) Heat the water to the boiling point. An accurate thermometer registers exactly 212 degrees Fahrenheit when the water reaches the boiling point. If your thermometer registers less than that, say 210 degrees, you will need to cook your candy two degrees less than specified in the recipe, and likewise, if it

- registers 214 degrees at the boiling point, add two degrees to that called for in the recipe.
- (3) Be sure that your eye is on a level with the mercury when you are reading the thermometer.
- (4) Some of our thermometers have a small piece of wood attached by a chain to make it easier to remove it from the solution. Do not allow this tab to hang where it will be scorched by the flame.
- (5) Test one of the thermometers and report your result.

  Problem 2. What is the theory of candy-making?
  - A. What ingredients do you consider are essential for candy-making? Make a list of other materials that may be added to give variety.
  - B. How are candies classified? How would you describe each class?
  - C. Name some common forms of single (sometimes called simple) sugars. (reference 3,4,5)
  - D. What are some common double (compound) sugars? (reference 3,4,5)
  - E. What are some of the physical properties of each kind of sugar?
  - F. How may a double sugar be changed to a single sugar?

    What is the name of the agent that does the work? What is the value of this change in candy-making?
  - G. Describe what happens during the cooking of candy solutions.

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- H. What is the most important factor in sugar cookery? Upon what things is this factor dependent?
- I. You should be able to define the following by this time:
  - 1. Inverting agent
  - 2. Crystalline
  - 3. Invert sugar
    4. Non-crystalline

- 5. Single sugar
- 6. Crystallization
- 7. Double sugar
- 8. Recrystallization
- Problem 3. What are the characteristics of the physical tests that are commonly used in sugar cookery?
  - A. Before you start the practical work of this problem make yourself familiar with the following:
    - 1. Why is corn syrup used in the recipe?
    - 2. What do your candy notes tell you regarding the following:
      - (a) When candy should be stirred?
      - (b) When it is best not to stir candy?
      - (c) What to do when sugar crystals form on the side of the pan during the cooking of the candy?
  - B. Working in groups of two, find each of the following tests as you make the lollypops. Use one-half the recipe.
    - Measure your materials into an agate saucepan (use one of the smaller saucepans or your candy will cook too fast). Place the solution over a low flame.
    - 2. Insert the candy thermometer as soon as the sugar is dissolved.
    - 3. When the thermometer registers 234 degrees Fahrenheit remove the pan from the fire and test it for the thread stage by dipping a fork into the solution and

- letting the solution drip from the times of the fork, holding the fork perpendicularly. The last drop is the test drop. What happens? How would you describe the test?
- 4. Replace the candy over the fire and cook the mixture to 238 degrees Fahrenheit. Remove from the fire again. Have ready a cup of <u>cold</u> water and drop a teaspoon of material into the water. How would you describe this test? This is the soft ball stage. Save it for comparison.
- 5. The mercury will now rise very quickly and you must watch it carefully or you will miss some of the tests.

  Cook to 248 degrees Fahrenheit. Remove from the fire and test as you did before. This is the hard ball stage. How would you describe this test?
- 6. Repeat, and test at 290 degrees Fahrenheit crack stage, and again at 310 degrees Fahrenheit hard crack stage. Describe these tests.
- 7. Your candy is now ready to mold. It must first be flavored and colored.
  - (a) You may use one-fourth of a teaspoon of either vanilla, lemon, orange, or almond extract, or one <u>drop</u> (no more) of an oil - cinnamon, clove, wintergreen, peppermint, or spearmint. Do not measure your flavoring until you are nearly ready for it, and do not take the

## bottles or colorings from the supply table.

- (b) The following colors are commonly used with the following flavorings:
  - (1) Dark red Cinnamon
  - (2) White Peppermint
  - (3) Pink Wintergreen
  - (4) Pale green Clove
  - (5) Yellow Lemon
  - (6) Orange Orange
  - (7) Remember that you may add more coloring if it is necessary, but you cannot take any out after it has been added. With a toothpick take a little coloring from the tube a bit about the size of your pencil lead is enough and work it into about a tablespoon of the candy solution until it is evenly colored. Add to the candy, but do not stir. Blend by rotating the dish. You must work very quickly or the candy will harden.
- 8. You may drop your candy from the tip of a tablespoon onto an oiled baking sheet or pour it into muffin pan, making the lollypop one-half inch thick.
- 9. Do not jar, touch, or disturb while the candy is cooling. Why not?

10. When the lollypops are molded in a muffin pan they must be removed and a skewer inserted as soon as they will hold their shape, and are cool enough to handle.

Ask me to help you with it.

Problem 4. What are some of the causes of poor candy?

- A. What may be the cause when your candy does not harden?
  What makes candy soft and runny?
- B. Why do hard candies become sticky on standing?
- C. What are the causes of grainy fudge?

Problem 5. How are soft candies made?

- A. Working in groups of two, plan your work and make one of the following.
  - 1. One-fourth of the recipe of fudge
  - 2. One-half the recipe of penuche
  - 3. Submit your choice of soft candy for approval.
- B. Working in groups of two, submit your choice of candy for a third lesson.

You have finished the required work of theunit. Look over your papers to make sure there are no errors. You will find suggestions for extra work on the cards in the box on my desk. Choose a topic that appeals to you, and be ready to make your report during the week of December fourth.

## LOLLYPOPS

2 cups sugar 2/3 cup corn syrup coloring 1 cup water 1/2 teaspoon flavoring 12 wooden skewers

Cook sugar, water, and syrup to 310 degrees Fahrenheit.

Cool slightly, flavor, and color. Put into a pan of hot water while dipping.

## Method of dipping

Dip from tip of tablespoon onto a well-buttered slab or baking-sheet, or oil-cloth; insert skewers immediately.

Decorate as desired while hot, using shredded blanched almonds, candied cherries, raisins, jelly beans, peppermint candy, nuts, candied citron, or angelica.

Many original designs, such as faces, flowers, or scenes, can be made on the tops of the lollypops.

If molds of bunnies, lambs, fish or Santa Clauses are available, lollypops can be molded in these. Care must be taken to grease the molds well before putting in the syrup.

## BUTTERSCOTCH

2 cups brown sugar 1/4 cup corn syrup 1 cup water 1/4 teaspoon salt 1/3 cup butter flavoring

Put sugar, syrup, salt, and water into a saucepan. Stir until sugar is dissolved. Place on fire and cook to 290 degrees Fahrenheit. Stir gently to prevent scorching. Remove from fire, and add butter and vanilla or a few drops of oil of lemon. Place the pan in boiling water, and drop by spoonfuls on a greased slab, or pour into a greased baking-sheet, and mark off in squares while still warm.

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## PRIZE FUDGE

4 cups sugar 3 squares chocolate 8 tablespoons corn syrup 1 teaspoon vanilla 1/2 cup water 1 cup nuts

Cook all ingredients together, except nuts and vanilla, to 238 degrees Fahrenheit. Cool to 110 degrees Fahrenheit. Beat until creamy. Add nuts, and finish by kneading batch. Shape into a round roll and slice off pieces. Putting it away for at least forty-eight hours in an air-tight container before slicing it will improve it considerably.

#### PENUCHE

2 cups brown sugar 2 tablespoons butter 1/2 cup white sugar 1 teaspoon vanilla 1 1/2 cup water 1 cup nut meats

Boil sugar and water together to soft-ball stage, 238 degrees Fahrenheit. Remove from fire; add butter; cool.

Beat until it begins to cream. Quickly add nuts and vanilla; beat a little longer, and pour out on buttered pan. Mark off in squares while warm, or drop by spoonfuls.

## MOLASSES TAFFY

2 cups molasses 1/2 cup butter 1 cup sugar 1 teaspoon vanilla

Mix molasses, sugar, and butter. Boil to crack stage, 265 degrees or 270 degrees Fahrenheit. Pour on buttered platter. When cool enough, pull until light in color. Cut into pieces with scissors.

## CHOCOLATE CARAMELS

3 cups sugar
1/2 cup corn syrup
1/2 cup butter
2 cups milk

1/2 cup water
3 squares chocolate
1 teaspoon vanilla
1 cup nuts

Cook sugar, syrup, butter, milk, water, and chocolate to hard-ball stage, 250 degrees Fahrenheit. Add vanilla and nuts. Stir. Pour out into buttered shallow pans so that it will be about one inch deep. When nearly cold cut in inch squares. Wrap in waxed paper.

## DIVINITY

1 cup corn syrup 1 ci	gg whites up English walnuts easpoon vanilla
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Boil sugar, water, and syrup to a hard-ball, 250 degrees Fahrenheit. Pour syrup slowly on well-beaten whites. Beat until mixture begins to thicken and get dull; add vanilla and nuts. Pour quickly into a well-buttered pan. When cool, cut in squares.

#### GUM DROPS

	6	tablespoons &	granulated		1/2	cup corn syrup
		gelatine		1	1/4	cup cold water
	2	tablespoons v	water		3	tablespoons lemon
1	1/2	cup sugar				juice
		coloring and	flavoring			

Soak gelatine in two tablespoonfuls of water. Add sugar and corn syrup to cold water; stir until well dissolved; and cook to 280 degrees Fahrenheit but do not stir while cooking. When this reaches 280 degrees Fahrenheit, add gelatine and

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lemon juice. Remove from fire, divide the mixture into three parts, and color and flavor each mixture as desired. Mold in cornstarch molds, or pour into square pan so that the depth of the gum drops will be about one inch. When firm, cut into squares, or strips, and roll in sugar or crystallize in sugar solution.

#### MARSHMALLOWS

2 cups sugar 1/2 cup corn syrup
1/4 cup cold water
1/2 cup hot water
1 teaspoon vanill 2 egg whites

4 tablespoons granulated gelatine

l teaspoon vanilla 2 cups powdered sugar

Soak gelatine in cold water. Put sugar, syrup, and water into saucepan, stir until sugar is well dissolved, and cook to 240 degrees Fahrenheit. Add gelatine; remove from fire; add vanilla and pour on well-beaten egg white; beat vigorously until very stiff. Pour in a tin pan, which has been well dusted with powdered sugar. Sift powdered sugar over the top of candy and allow to stand until firm. Cut into squares with a knife, dipping the knife into boiling water occasionally, or cut with small cutter.

# Optional Activities

1. Prepare any of the following:

a. Taffy b. Divinity

- c. Gum drops d. Marshmallows
- e. Chocolate caramels
- 2. Choose several kinds of candy that you would like to give to a friend for a Christmas gift. Make a container of heavy cardboard. Pack and wrap your gift. Patterns for

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the container may be found in the files.

- 3. Investigate the manufacture of sugar.
- 4. Make arrangements, and visit a candy-making establishment.
- 5. How do candy pulling machines operate?
- 6. Report on the making of ribbon candy.
- 7. Prepare an exhibit on sugars and syrups.
- 8. Prepare an exhibit of the accessories used in candy-making. (Chocolate, nuts, extracts, etc.)
- 9. Prepare favors of candy that would be suitable for you to use for parties.
- 10. Report on the history of candy-making.
- 11. Investigate the advantages and disadvantages of the "profession" of candy-making.
- 12. Prepare a chart to show the nutritive value of candy.
- 13. Prepare a poster that will teach children a wise use of candy.
- 14. Form a committee, or serve as a member of a committee for planning and carrying on a candy sale, the proceeds to be used for the Student Council.
- 15. Locate on an outline map of the world the sources of sugar and other materials used in candies. Some of this information you may get from package labels.
- 16. On an outline map of New England locate the cities where candy is made. Advertisements and candy boxes will give this information.
- 17. What can you find about candy that is typical of various nations?

18. If you have a problem of your own, ask permission of instructor to work on it for credit.

# Test 1.

Read the sentence carefully. Select the word or phrase that you think will fill the blank correctly from the column at the right. Place the number of the blank in the parentheses following the word that you have chosen.

The temperature of the water used	non-crystalline	(	)
to test candy solutions should be (1).	molasses	(	)
Granulated sugar is manufactured from	no	(	)
(2), and the substance that remains	maple	(	)
after the crystallized sugar has been	crystalline	(	)
removed is sold as (3). The texture	finer	(	)
of granulated sugar is much (4) than	double	(	)
powdered sugar, and confectioner's	cold	(	)
sugar is much (5) than powdered	warm	(	)
sugar. Candy is divided into two	large	(	)
large groups - (6) and (7).	corn	(	)
Rock candy is an example of a candy	small	(	)
that has <u>(8)</u> crystals. Butter-	cane or beet	(	)
scotch is an example of a candy that	coarse	(	)
has (9) crystals. In the making of	single	(	)
fudge (10) crystals are formed. Corn	coarser	(	)
syrup and molasses are examples of			
(11) sugars. Maple sugar and con-			
fectioner's sugar are examples of (12)			
sugars.			

The hardness of candy depends on	be grainy	(	)
the amount of (13) used and the	soft ball	(	)
(14) which the candy is cooked. More	shallow	(	)
of the former is needed in (15) can-	inverting agent	(	)
dies. The pan selected for candy-mak-	invert sugar	(	)
ing must be of (16) surface and	temperature to	(	)
and (17) rather than (18) so that	deep	(	)
the candy will not cook too slowly. If	hard	(	)
the candy is cooked too slowly it will	crack	(	)
(19) . If the solution is disturbed	be gummy	(	)
by stirring while it is hot, the candy	pan in	(	)
will (20) . Hard candy will become	hard ball	(	)
sticky as it ages if it contains too	not harden	(	)
much (21). When one tests the candy	smooth	(	)
solution while it is cooking and finds	hard crack	(	)
that it is firm enough to hold its	thread	(	)
shape, one will know that the (22)			
stage has been reached. If the test			
shows that the solution on cooling			
breaks easily the (23) stage has			
been reached.			
Defense the helding under de		,	1

Before the boiling point is	single	(	)
reached, it is necessary to (24).	converting	(	)
During the cooking of candy the water	easy to handle	(	)
is (25), and the temperature of the	cream of tartar	(	)

solution (26). Some of the (27)	dissolve sugar	(	)
sugar is changed to (28). This is	double	(	)
caused by an (29) in the solution	vinegar	(	)
which is known as (30) agent.	evaporated	(	)
(31) and (32) are examples of	acid	(	)
such an agent. When we add (33)	inverting	(	)
to a mixture, we add a sugar that has	rises	(	)
already been changed. Hot candy solu-	corn syrup	(	)
tions are (34).	drops	(	)
	soda	(	)
	vanilla	(	)
	sensitive to jarring	(	)

# Test 2.

Read the question carefully. Select the part that you think completes the question correctly. Place the letter of the part you have chosen on the line at the end of the question.

1. Candy should be tested in water that is

a. hot b. warm c. cool d. cold

e. very cold

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2. The granulated sugar that we buy is manu-

factured from

- a. juice of sugar cane
- b. sap from maple tree
- c. honey
- d. root vegetables
- e. corn

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3.	Confectioner's sugar is	
	a. finely crushed sugar crystals b. crude sugar c. same as powdered sugar d. simple sugar e. coarser than powdered sugar	3
4.	Molasses is	
	<ul> <li>a. manufactured from sugar, colored and flavored</li> <li>b. liquid obtained from corn plant</li> <li>c. a poor grade of maple syrup</li> <li>d. a liquid remaining after the crystallized sugar has been removed from cane syrup</li> <li>e. a combination of maple sugar, syrup, and water</li> </ul>	r 4
5.	Candy that is cooked beyond the required tem-	
	perature will be	
	a. too soft b. too hard c. crystalline d. smooth and creamy e. brittle	5
6.	Candy that is coarse and grainy may be due to	
	<ul> <li>a. coarse sugar</li> <li>b. stirring while solution is hot</li> <li>c. stirring before boiling point is reached</li> <li>d. cooling the candy without beating</li> <li>e. use of too much liquid</li> </ul>	6
7.	The hardness of non-crystalline candies	
	depends upon	
	<ul> <li>a. proportion of sugar to liquid</li> <li>b. amount of inverting substance and temperature to which solution is cooked</li> </ul>	
	<ul><li>c. amount of fat</li><li>d. rate of cooking</li><li>e. beating of candy</li></ul>	7
8.	More inverting substance is needed if	
	<ul> <li>a. candy is cooked to low temperature</li> <li>b. one is making hard candy</li> <li>c. one desires creamy candy</li> <li>d. one is making soft candy</li> <li>e. water is used in place of milk</li> </ul>	8

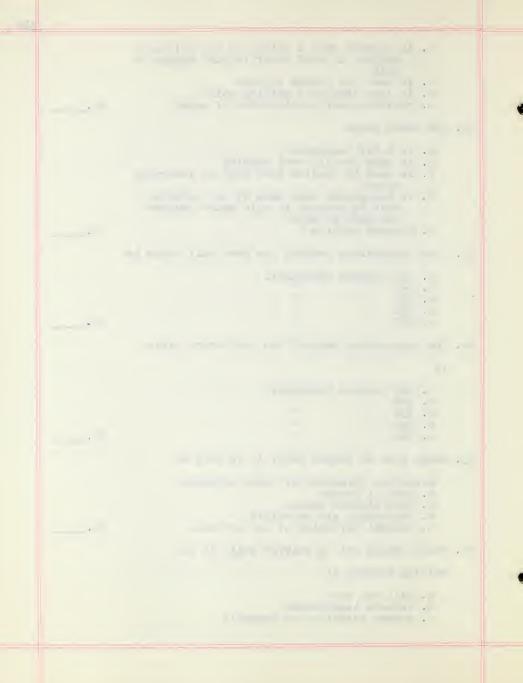
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9.	The sugar must be dissolved before	
	a. placing over fire b. solution boils c. thread stage is reached d. any materials are added e. candy is done	9
10.	During the boiling of candy	
	<ul> <li>a. water is evaporated</li> <li>b. water vapor is absorbed from air</li> <li>c. mixture becomes thinner</li> <li>d. the quantity increases</li> <li>e. sugar evaporates</li> </ul>	10
11.	Hot candy solutions are	
	<ul> <li>a. easy to handle</li> <li>b. not likely to become sugary</li> <li>c. at best temperature for beating</li> <li>d. sensitive to jarring</li> <li>e. will not burn</li> </ul>	11
12.	In candy making an inverting agent is used to	
	<ul> <li>a. improve flavor</li> <li>b. make candy harder</li> <li>c. make candy smoother</li> <li>d. change some of the double sugar to single suger</li> <li>e. keep candy from crumbling</li> </ul>	gar 12
13.	Some common inverting agents are	
	a. corn syrup, lemon juice, vinegar b. butter, cornstarch, vanilla c. soda, sugar, water d. nuts, peanut butter, milk e. marshmallows, molasses, cream of tartar	13
14.	If too much inverting substance is used the	
	candy will be	
	a. gummy d. hard b. smooth and creamy e. clear c. sticky	14
15.	An example of a candy in which the sugar has been	
	recrystallized into tiny crystals is	

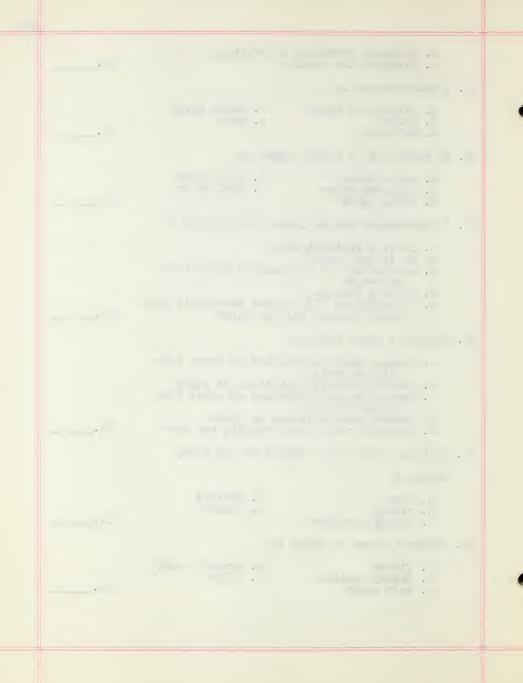
	b.		d. taffy e. rock candy	15
16.	The 1	recrystallization of sug	gar has been pre-	
	vente	ed in		
	b.		d. chocolate e. candied orange pee	16
17.	The	crystallization of suga	ar is controlled by	
	b. c.	kind of sugar and liquic kind of inverting agent amount of inverting agent to which solution is weather and type of paraccurate measures and	t ent and temperature cooked n	17
18.	A phy	sical reaction in cand	y making is	
	b. c. d.	ceating cooking the candy inverting the sugar cooking the milk cooking acid with sugar	c	18
19.		emical reaction in cand		
	ъ. с. d.	stirring cooling marking mixing materials changing double to sing	gle sugar	19
20.	The t	hread stage in sugar co	ookery is	
	b. c. d.	recognized when brittle cold water a high temperature used only in candies whe amount of inverting a recognized when the sola fork leaves a threa	nich have a large substance lution dropped from	20
21.	The s	soft ball stage		
	a.	is reached when a little dropped in cold water		

et. 

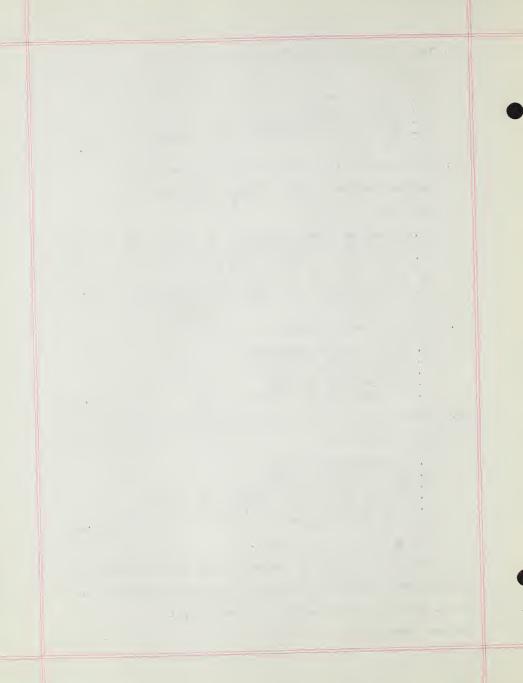
	b. is reached when a little of the solution dropped in cold water is hard enough to mold	
	<ul> <li>c. is used for peanut brittle</li> <li>d. is just above the boiling point</li> <li>e. prevents recrystallization of sugar</li> </ul>	21
22.	The crack stage	
	<ul> <li>a. is a low temperature</li> <li>b. is used for all soft candles</li> <li>c. is used in candles that have no inverting agent</li> <li>d. is recognized when some of the solution</li> </ul>	
	that is dropped in cold water becomes too hard to mold  e. becomes brittle	22
23.	The temperature nearest the hard ball stage is	
	a. 232 degrees Fahrenheit b. 240 " " c. 250 " " d. 280 " " e. 300 " "	23
24.	The temperature nearest the hard crack stage	
	is	
	a. 228 degrees Fahrenheit b. 244 " " c. 252 " " d. 288 " " e. 340 " "	24
25.	Candy must be beaten until it is cold to	
	a.prevent formation of large crystals b. make it harden c. make mixture smooth d. thoroughly mix materials e. prevent formation of any crystals	25
26.	Candy should not be stirred while it is	
	boiling because it	
	a. will not burn b. reduces temperature c. causes formation of crystals	



	d. prevents formation of crystals e. disturbs the cooking	26
27.	A double sugar is	
	a. granulated sugar d. maple syrup b. honey e. karo c. molasses	27
28.	An example of a single sugar is	
	a. maple sugar d. corn syrup b. powdered sugar e. loaf sugar c. brown sugar	28
29.	A thermometer may be judged as accurate if	
	<ul> <li>a. it is a reliable make</li> <li>b. it is not broken</li> <li>c. one is told by a classmate that it is accurate</li> <li>d. it is a new one</li> <li>e. it registers 212 degrees Fahrenheit when water reaches boiling point</li> </ul>	29
30.	Beating a candy mixture	
	<ul> <li>a. causes recrystallization of sugar into tiny crystals</li> <li>b. prevents recrystallization of sugar</li> <li>c. causes recrystallization of sugar into coarse crystals</li> <li>d. breaks sugar crystals by force</li> <li>e. prevents candy from becoming too hard</li> </ul>	30
31.	Beating affects the texture of the candy	
	making it	
	a. hard d. brittle b. creamy e. "chewy" c. non-crystalline	31
32.	Butter is used in candy for	
	a. flavor d. crumbly candy b. creamy texture e. color c. soft candy	32



or candy containing chocolate requires care in	
cooking to	
<ul> <li>a. prevent burning</li> <li>b. develop flavor</li> <li>c. prevent change of color</li> <li>d. prevent fat in chocolate from spoiling</li> <li>e. cook starch</li> </ul>	33•
34. Candy should not be beaten until the temperature	9
has been reduced to 110 degrees Fahrenheit in	
order that	
<ul> <li>a. it may be easier to handle</li> <li>b. fingers may not be burned</li> <li>c. sugar will not recrystallize into coarse crystals</li> <li>d. it may not cool too quickly</li> <li>e. inverting agent may have time to invert the sugar</li> </ul>	34•
35. If milk is used in candy	
a. flavor will be improved b. texture will be improved c. texture may be coarse d. mixture will not burn e. the candy may be darker in color	35•
36. If the saucepan is scraped while pouring the	
candy into the pan	
a. candy may become grainy b. color will be affected c. flavor will be improved d. texture will be made smooth and creamy e. nuts will be prevented from falling to the bottom of pan	36
Test 3.	
Write in the space at the end of the line the w	word, or
group of words which will complete the sentence corr	ectly.
Sugar, which is the basis for candy-making, is manu-	
factured from (1)	1



The liquid remaining after sugar has been crys-	
tallized is (2)	2
Crude brown sugar is purified and bleached to give	
us <u>(3)</u> sugar.	3
Confectioner's sugar is (4) in texture than	
powdered sugar.	4
Powdered sugar is coarser in texture than (5)	
sugar.	5
Sometimes granulated sugar is packed in molds and	
heated slightly, making (6) sugar.	6
Success in candy-making depends upon the controll-	
ing of <u>(7)</u> .	7
The hardness of candy depends upon the amount of	
(8) substance used, and the (9) to which	8
the solution is cooked.	9
To make candy smooth and creamy it is necessary	
that we use a substance known as an (10) agent.	10
Candy that is smooth and creamy has had some of	11
the (11) sugar changed to (12) sugar.	12
Such acid substances as (13) and (14) will	13
will make candy creamy or clear, and another very	14
common substance, which is not an acid, employed	
for the same work is (15).	15
Penuche is an example of a candy in which sugar	16
crystals are (16) into (17).	17
Taffy is an example of candy in which crystalli-	
zation is (18).	18

In rock candy, sugar has been crystallized into	19
(19) and (20).	20
When one drops some of the candy solution in cold	
water, and a brittle substance forms, the (21)	21
stage has been reached.	
The (22) stage in sugar cookery has been reached	22
when the solution dropped from a fork leaves a fine	
hairlike substance clinging to the spoon.	
When some of the sugar solution is dropped in cold	
water and forms a mass which will hold its shape,	
the (23) stage has been reached.	23
Candy that is cooked beyond the required tempera-	
ture is (24) in texture.	24
Candy that is soft and sticky will be the result	
if too much (25) is used.	25
Candy that is coarse and grainy may be caused by	26
(26) while the candy is at a (27) temperature;	27
(28) during the cooking period; and by allowing	28
(29) to collect on the (30).	29
Candy must be beaten until it is thoroughly cold to	30
prevent the formation of (31).	31
Candy may become sugary if it is stirred while it	
is <u>(32)</u> .	32
An example of a double sugar is(33).	33•
(34) and (35) are single sugars.	34
A thermometer is accurate if the mercury registers	
A chermometer is accurate if the mercury registers	35•

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(36) degrees Fahrenheit when the water reaches	36
the boiling point.	
The approximate temperature for the soft ball	
stage is (37) degrees Fahrenheit.	37
Candy reaches the crack stage at about (38)	38
degrees Fahrenheit.	
In candy-making a physical reaction is (39).	39
A chemical reaction in candy-making is one such as	
(40)	40
The temperature of the water in which candy is	
tested should be <u>(41)</u> .	41
The crystallization of sugar is controlled in two	
ways - by cooking to proper (42), and by the use	42
of <u>(43)</u> .	43
Butter is used in candy to give a better (44).	44
Beating causes the (45) of sugar.	45
If chocolate is used in candy, the cooking must be	
done carefully to prevent (46).	46
When candy reaches a temperature of (47) degrees	47
Fahrenheit it may be beaten.	
Scraping the pan in which candy is cooked causes	
(48)	48
Sugar must be dissolved by the time the candy	
reaches the (49).	49
Water is (50) during the cooking process.	50
_(51)_ candy solutions are very sensitive to	51
physical reactions.	

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# CHAPTER IV MEAL PLANNING

#### The Unit

The ability to plan and select meals that are nutritious, attractive, and suited to one's economic standing. An interest in forming good food habits.

# The Delimitation

- 1. One of the problems that everybody should face is that of selecting food wisely for, no matter how little he has to spend, he can spend that little for food which will be health-producing. In order to accomplish this, he must understand the facts of food transformation in the body such transformation as produces heat and energy, the building up of new and repairing of old tissues, and the regulation of the body processes.
  - A. Heat and energy are derived from three sources:
    - (1) Carbohydrates, which are subdivided into two groups:
      - (a) Sugars, supplied by fruits, syrups, honey, and sugar itself;
      - (b) Starches, found in abundance in grains, and the rooty and starchy vegetables, as potatoes and carrots;

- (2) Fats, which give us two and a quarter times as much heat and energy as any of the other energy foods, and are found in vegetable oils and animal fats;
- (3) Protein, valuable as fuel, but most valuable as a building agent.
- B. Our bodies are built up and repaired by proteins, minerals, and vitamins.
  - (1) Proteins are found in large quantities in animal products and animal foods.
  - (2) Minerals most important for building are calcium and phosphorus, and iron:
    - (a) Calcium and phosphorus are needed for bones and teeth. Calcium is found in milk, cheese, leafy vegetables, and egg yolk; while phosphorus is supplied by cheese, egg yolk, milk, meat and whole grains;
    - (b) Iron is essential for the blood and is found in egg yolk, leafy vegetables, meat - especially liver, and whole grains.
  - (3) Vitamins essential for normal growth and development are found in fruits, vegetables, milk, and whole grain products.
- C. Our bodies are regulated by minerals and vitamins.
  - (1) Minerals are essential to carry on such processes as the stimulation of muscles and nerves, exchange

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of body fluids, the clotting or blood, oxidation processes, and body neutrality. One example is iodine, which is essential for the proper functioning of the thyroid gland.

- (2) Vitamins are distinguished by letters:
  - (a) Vitamin A is necessary to prevent the drying of the mucous membranes, especially those of the eyes, and the respiratory and digestive tracts. Good sources are cod and halibut liver oils, butter, cream, cheese, egg yolk, liver, and those vegetables which have the yellow color pigment;
  - (b) Vitamin B keeps the nervous tissues healthy, and promotes appetite. It is found in largest quantities in yeast, in the germ and bran of grains, and quite generally in vegetables;
  - (c) Vitamin C prevents scurvey, a disease characterized by swollen and bleeding joints, and the loosening of the teeth. As cooking processes tend to destroy this vitamin, we should have some raw fruit or vegetable each day;
  - (d) Vitamin D prevents rickets fragile teeth and bones. Although it is also found in oils, its best source is the sun;

- (e) Vitamin E is necessary for the proper functioning of the reproductive organs, with sources in whole grains;
- (f) Vitamin G prevents pellagra, a skin disorder, and may be supplied by yeast, glandular organs, meat, and greens.
- 2. We may evaluate our diet by comparing our expenditures with two ideal food budgets, one on a percentage basis and one fractional:

\*A. Dr. H. C. Sherman suggests the following food budget:

(1)	Meat, poultry and fish	10 to 15	per cent
(2)	Eggs	5 to 7	tt tr
(3)	Milk	25 to 30	11 (1
(4)	Cheese	2 to 3	11 11
(5)	Bread, cereals and grains	10 to 12	tt tt
	Butter and other fats	12 to 15	11 11
	Sugar and sweets	about 3	11 11
	Fruits and vegetables	15 to 18	44 64

\*B. Some authorities divide the budget as follows:

		Meat, poultry, fish and cheese	1/5
		Milk	1/5
		Cereals	1/5
(	(4)	Fruits and vegetables Miscellaneous	1/5
(	(5)	Miscellaneous	1/5

3. We may make a further evaluation by comparing our diet with an accepted standard. The Food Selection Score Card prepared by Flora M. Thurston, and published in the Journal of Home Economics, September 1926, gives a daily requirement of food for an average adult. It provides for the building and repairing of the body, and for maintenance of health. Since activity, size, and age of individuals differ, it is impossible to include in a score card food that will meet

the energy requirement of everyone but the daily diet should include

- A. One pint of milk;
- B. Two servings of fruit, one of which is raw;
- C. Three servings of vegetables, one of which is leafy;
- D. One serving of two of the following meat, cheese, fish, eggs, dried beans of peas;
- E. Six glasses of water;
- F. Two servings of whole grain products.

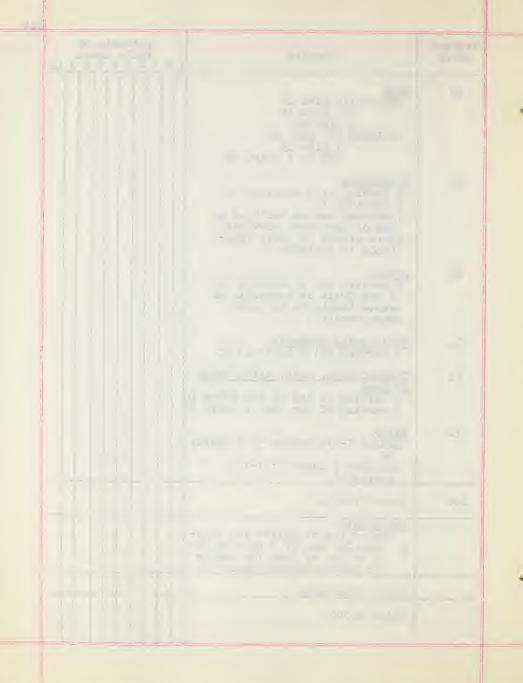
## Food Selection Score Card 1

Note: This score card emphasizes the need of certain essential foods in a well-selected diet. It is not intended to represent a complete diet. Moderate amounts of fats, sweets, and other desirable foods should be added to the foods listed below. The size of the servings should vary according to the need of the person; for adults and older children an average serving of vegetables, fruits, or cereals is one-half cup. Servings will be smaller for children under ten years of age.

<sup>1/</sup> Flora Thurston, "Food Selection Score Card", Journal of Home Economics (September 1926), Vol. xviii, p. 496.

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Maximum Score	Credits	1	2	Da	ily	ate Ch	10
20	Milk Adults 1/2 pint 10 3/4 pint 15 1 pint 20 Children 3/4 pint 10 1 pint 15 3/4 to 1 quart 20						
20	Vegetables  1 serving 5; 2 servings 10; 3 servings 15 (Potatoes may be included as one of the above servings) Extra credit if leafy vegetable is included 5						
20	Fruits 1 serving 10; 2 servings 15 If raw fruit or vegetable or canned tomato is included extra credit 5						
15	Whole grain products 1 serving 10; 2 servings 15						
15	Cheese, eggs, meat, dried beans or peas  1 serving of any of the above 10  1 serving of any two of above 15						
10	Water Adults 1-1/2 quarts 5; 2 quarts 10 Children 1 quart 5; 1-1/2 quarts 10						
100	Total Credits						
	Deductions Use of tea or coffee for children 10; use of 2 cups of tea or coffee or both for adults 10; eating between meals 10						
	Total Deductions			_			
	Total Score						



Directions for Using Score Card

If your final score is between 85 and 100, with not less than 10 points credit under each point, your food selection standard has been good.

A score of 75 to 85 indicates a Tair standard. Credits below 75 indicate a low standard.

Explanation of Terms

Milk includes whole milk for children and skim or buttermilk for adults, provided butter is eaten. Count milk cooked in food and that taken as a beverage.

Vegetables Include all foods commonly known as vegetables.

Leafy vegetables include all dark green leaves, cabbage,
and lettuce. Extra credit is given for these because of their
special value.

Fruits include all foods commonly known as fruits. Since tomatoes are botanically fruits, and very similar to oranges in value, they may be counted as either vegetable or fruit.

Raw fruits and vegetables and canned or fresh tomatoes are given extra credit because of their special value.

Grain products include all breakfast foods, breads, and other flour products. The whole grains are those containing all or most of the coating of the grain. Most dark colored cereals are in this class.

<u>Water</u> includes liquid in milk, or in any beverage or soup, in addition to plain water.

Sweets include all confections, cakes, and foods made

.

with considerable sugar or syrup.

Meat includes fish, game, and poultry, but does not include bacon or salt pork, which are classified as fats.

Dried beans and peas do not contain sufficient proteins as do the animal protein foods. They are, however, valuable to supplement these foods as sources of proteins.

## Pretest

(1) , (2) , (3) are the food	two	(	)
groups that supply heat and energy. The	one cup	(	)
body is supplied with building materials	fruit and		
by the food groups (4) and (5).	vegetables	(	)
Vitamins and minerals are necessary to	one quart	(	)
(6) On small incomes one must spend	one pint	(	)
(7) per cent for food. The smallest	three	(	)
percentage of the food budget should be	meat	(	)
spent for (8). One spends the highest	twenty-five	(	)
percentage of the food budget for (9)	fats	(	)
in the average family. One should spend	sixty	(	)
approximately the same amount of money	sweets	(	)
for (10) as for (11). An adult	milk	(	)
needs (12) of milk each day. (13)	leafy	(	)
servings of fruit are needed each day,	heat and energy	(	)
one of which is (14). (15) serv-	regulate body		
ings of vegetables are necessary each	processes	(	)
day, one of which is (16).	sugars	(	)
	raw	(	)

	starches	(	)
	protein	(	)
	minerals	(	)
	vitamins	(	)
(17), (18), (19), (20),	cold dish	(	)
(21), and (22) are the most import-	baked apple	(	)
ant things to consider in menu planning.	occupation	(	)
If one serves a fruit salad with the	age	(	)
main course (23) would be a good	number in		
dessert to serve. If the main course	family	(	)
is a hearty one (24) would be a good	rlavor	(	)
dessert to serve. Children should not	peach shortcake	(	)
be served (25). There should be at	bread	(	)
least one (26) in each meal regard-	hot dish	(	)
less of the weather. If potatoes are	nearness to		
served (27) is not necessary.	stores	(	)
	climate	(	)
	color	(	)
	custard	(	)
	texture	(	)
	meat	(	)
	hearty salad	(	)

What is wrong with the following menus?

1.	Bouillon, Macaroni and Cheese, Tomato Salad,	
	Roast Beef, Chocolate Cornstarch Pudding	1
2.	Cream of Corn Soup, Baked Potatoes, Creamed	
	Codfish, Salad, Carrots, Tapioca Cream	2
3.	Baked Mackerel, French Fried Potatoes, Spinach,	
	Squash, Gingerbread with Whipped Cream	3
4.	Cream of Tomato Soup, Fried Halibut, Mashed	
	Potatoes, Carrots, Tomato Salad, Apple Betty	4
5.	Fruit Cup, Baked Salmon, Riced Potatoes,	
	Saallaned Tometoes Pruno Whin	Ь

## Assignment A

Whether one prepares meals herself, or eats meals prepared for her, she must select food wisely if she would be a healthy and efficient member of society.

Problem 1. How is our body dependent upon food for its growth and development?

Food is defined as that substance which, when taken into the body, will yield heat and energy, build and repair tissues, and regulate body processes.

- A. What are the names of the food classes that will supply us with heat and energy?
  - 1. Do all of these classes give the same amount of heat?
  - 2. Make a column for each of these classes of energy foods and list some common foods that are examples of each class.

- B. What food classes build and repair tissues?
  - 1. What elements are responsible for each of the following?
    - (a) Muscle building
    - (b) Bone building
    - (c) Blood building
  - 2. Make lists or foods that are rich in each of these body-building substances.
- C. What are the food classes that regulate body processes?
  - Make lists of foods that are sources of each of these classes as you did in 1 and 2.
  - 2. How do each of these classes that you have mentioned help to regulate the body?

As soon as you feel that you understand Problem 1, ask for the test on this problem as it will be impossible for you to go any further until you understand the use of food in the body, and are able to classify foods.

If your test is satisfactory you may be excused from the following:

In a column on the left-hand side of a piece of notebook paper list all the food that you are yesterday. Rule the rest of the paper so that you have a column for each of the following: Protein, fat, sugar, starch, phosphorus, calcium, iron, iodine, and a column for each of the vitamins, A, B, C, D, E, and G. Now show by means of checks in the proper columns the value of each of the foods that you have listed. For example -

whole grains are a good source of starch, calcium, iron, phosphorus, and vitamins B and G. A check will appear on the line with dark bread or whole grain cereals in each of these columns. Use a reference book for your work. This will give you an opportunity to become familiar with the value of foods. Problem 2. How may we determine whether or not we are well fed?

One of the ways of determining whether or not we are well fed is by comparing our diet with an accepted food chart.

- A. On a piece of paper list the meals that you had yesterday.

  If for any reason yesterday was not typical of your food habits, you may select another day.
- B. Score your meals using the Food Selection Score Card.
  - 1. What is the maximum score allowed for milk?
  - 2. How much milk must you have during the day to rate a full score?
  - 3. What is your score?
  - 4. Place it in the first column on your score card.
  - 5. Score each of the other groups.

Do not try to score individual foods. Consider the day as a whole. Ask yourself if you have had during the day one pint of milk, or two servings of whole grains, and so on. Be sure that you do not give yourself more than the maximum score. For the time being disregard the deductions.

C. On which of the groups did you fail to get a full score?

What must you add, and how much, to make it a complete

- score? Revise your menu so that you have a perfect score.
- D. Your score card says to deduct ten from an adult's score if two cups of tea, or two cups of coffee, or one cup of both were used. Why?
- E. Aside from the fact that tea and coffee are too stimulating for children, why should they be excluded from their diets?
- F. Why is eating between meals a poor habit to form?
- Problem 3. How shall we select a well-balanced diet?
  - A. On a piece of notebook paper write your usual breakfast and night meal. If it is your habit to have a lunch or dinner when you get home from school include this meal also. The extra lunch is considered as an extra meal, and you need not deduct it as "eating between meals".
    - 1. Plan a well-balanced lunch that you could bring from home and score your day's diet, using the second column on the score card. Correct and revise your menu if it has a poor score.
    - 2. You will find on my desk several lunchroom menus. Select one of these and choose a well-balanced lunch. How much will it cost? Score this menu with the meals that you had at home as listed in A, using the third column on the score card. Make corrections where it is necessary.
    - 3. What kind of sandwiches would you bring from home, and what would you select from the school lunch for a balanced meal? Use the fourth column for your scoring,

and score as before.

- 4. If you should bring fruit and cake, or cookies, from home what would you have to buy from the lunch counter to make a balanced meal? Score this meal with your breakfast and dinner, using the fifth column of the score card.
- B. In which meals do you think you should make definite plans to include milk? Vegetables? Fruit? Whole grains?

  Protein material? If you are to have eight glasses of water each day, at what times during the day should you take it?
- C. On my desk you will find menu cards of various restaurants and tearooms.
  - Choose one of the menu cards that appeals to you and decide whether your meal is to be luncheon or dinner.
     Write your order.
  - 2. Plan the other two meals of the day to make a well-balanced diet.
  - 3. Score your work in the sixth column of the score card and make corrections.
- D. The scores on your score card should be growing steadily higher. If they are not you have not yet mastered Problem 2. Review it.
- Problem 4. How do food expenditures show whether or not a family is well fed?

The percentage that one may spend for food will differ

with the size of the income; the number in the family, and the age of its members. If the income is small, sixty per cent of it may be necessary for the food. If the income is large, the amount spent for food may be as little as twenty-five per cent. Dr. H. C. Sherman suggests the following divisions for the food budget: (reference 3- page 119)

Meat, poultry, and fish Eggs	10 to 15 per 5 to 7 "	cent
Milk	25 to 30 "	44
Cheese	2 to 3 "	14
Butter and fats	10 to 12 "	44
Bread, cereals, and grains	12 to 15 "	14
Sugars and sweets	about 3 "	44
Fruits and vegetables	15 to 18 "	14

A. Classify the following expenses under the above headings.

You will need one more heading, "Incidentals".

Fruit Vegetables Butter Meat Soup	\$0.50 .88 .78 1.28	Supper Lunches Meat Vegetables Bread	\$0.45 .60 .43 .24
Bread Shredded Wheat Lunch Milk Gelatine	.09 .25 .56 4.38 .23	Coffee Shredded Wheat Dinner Meat Vegetables	.21 .25 .50 .23
Meat Cream Fruit Bread Salad Dressing	.63 .23 .34 .12 .20	Meat Vegetables Bread Lunches Cheese	.53 .13 .12 .60
Lettuce Steak Fish Bacon Butter	.12 .52 .23 .21 .45	Cocoa Tea Meat Vegetables Eggs	.07 .15 .11 .63

Vanilla	\$0.25	Meat	\$0.59
Vegetables	.25	Brown Sugar	.07
Fish	.25	Butter	.44
Prunes	.17	Soup	.09
Salad	.15	Lunches	.53
Dinners	1.60	Lunches	.23

- B. How much is spent for each group?
- C. What is the total amount spent for food?
- D. What percentage is spent for each group?
- E. Compare your figures with those of the ideal budget. Is this family spending their money wisely?
- F. If you notice any wide deviation from the ideal budget examine the expenditures and see if you can account for the differences.

Would figures for the month or year be more accurate for this problem? Why?

Problem 5. How does activity affect the food requirements?

- A. Examine the various types of breakfasts, lunches, and dinners outlined in reference 1. Copy these types in your notebook for reference.
- B. Make a day's menu for each of the four types.
- C. Use the score card to score your menus, columns seven, eight, nine, and ten, and correct where it is necessary.
- Problem 6. What poor food habits have you that need correction?

In Problem 2 and 3 you were asked to score your meals.

Look over your score card and compare your scores in each group. Do you find that you are habitually falling down on

the same item? In your notebook write a criticism of your diet.

Can you give any good reason for a low score on certain items?

How can you overcome your poor food habits?

You have now finished the required work. Check your papers carefully. In the card index on my desk you will find suggestions for extra work. Select a topic that appeals to you and have it ready to present to the class during the week of March fourteenth.

## Assignment B

Whether one prepares meals herself, or eats meals prepared for her, she must select food wisely if she would be a healthy and efficient member of society.

Problem 1. How is our body dependent upon food for its growth and development?

Food is defined as that substance which, when taken into the body, will build and repair tissue, yield heat and energy, and regulate body processes.

- A. We will divide the class into three groups to work on this first problem.
  - Group 1. Find in any of the books in the laboratory the names of the classes of foods that build and repair our bodies. What foods would you list under each of these headings or building foods? Find pictures of as many of these builders as possible and mount them on a chart which you may name "Building Foods". Have your pictures

checked before you mount them.

- Group 2. Make a similar poster to show the sources of energy foods. Find the names of the food classes that supply heat and energy and find pictures of the foods that are good examples of each of these classes. Have your pictures checked before you mount them.
- Group 3. Make a poster to show foods that are valuable in regulating the body processes. Your problem is not quite as easy as the other posters, for the classes are subdivided into several groups. What are the food classes that do this particular work? What are the subdivisions under each of these headings? Find pictures that will show good sources of each of them. Arrange them on your chart and let me check them before you paste them in place.

One girl in each of the groups should be prepared to explain the chart to the class.

B. Just to be sure that you understand the use of food, and know what foods we should eat to provide building materials, energy, and regulate body processes, work out the following problem:

Make a column an inch wide on the left-hand side of a piece of notebook paper. Make fourteen more columns that are smaller, and head them as follows: Protein, fat,

starch, sugar, calcium, phosphorus, iron, iodine, and a column each for vitamins A, B, C, D, E, and G. Choose one of the menu cards from my desk, and select a substantial dinner that you would enjoy eating. Allow one line in the largest column - that at the left of your paper - for each of the foods that you have selected, and list all foods. Now show by means of checks in the proper column the value of each of the foods that you have listed. For example, from the reference book, or charts that you have made you will find that whole grains are a good source of starch, calcium, phosphorus, iron, and vitamins B and G. A check will appear on the line with dark breads, or whole grain cereals in each of these columns. Refer to the charts which have been made by the class when it is necessary.

Do you find any column in which there is no check?

List on the back of your paper foods that would supply the food classes that were missing from your menu.

As soon as you have finished the problem, ask me for the test, as it will be impossible for you to go any further until you have learned the use of foods in the body, and are able to classify foods.

Problem 2. What kinds of food, and how much, are needed to keep the body in a healthy condition?

One of the ways of determining whether or not we are well fed is by comparing our diet with an accepted score card.

- A. List on a piece of paper the meals that you had yesterday.

  If for any reason yesterday was not typical of your food habits, choose a day that is.
- B. Score your day's diet using the Food Selection Score Card.
  - 1. What is the maximum score allowed for milk?
    - (a) How much milk must you have had to be allowed full score?
    - (b) Look through your day's meals and see if during the day you had two cups of milk. If you did, you may write a score of twenty in the first column of your score card.
    - (c) If you had between a cup and a half and two cups, you may give yourself a score of fifteen.
    - (d) For one cup you may have a score of ten.
    - (e) Anything less than one cup you must record as zero.
  - 2. Now look at the vegetables group and notice that you must have three vegetables, including a leafy vegetable.
    - (a) If you had three vegetables in your menu, you may write a score of fifteen.
    - (b) If you had two vegetables your score will be ten.
      Five will be given for one vegetable.
    - (c) If one of your vegetables was a leafy one, or if you had a leafy vegetable in addition to your other three, you may give yourself five more points.

3. Score the rest of your meal in the same way.

Do not try to score individual foods. Find out how much of the food in question you had during the day and base your score on that. For the time being you may disregard deductions.

- C. Pick out the groups on which you failed to get full score.
  What must you add to make it a complete score? kevise your menu so that it would score 100 per cent.
- D. Your score card says to deduct ten from an adult's score if two cups of coffee,or two cups of tea, or one cup of both were used. Why?
- E. Aside from the fact that tea and coffee are too stimulating for children, why should they be excluded from their diets? Why is eating between meals a poor habit to form?

  Problem 3. How shall we select a balanced meal?
  - A. On a piece of notebook paper write your usual breakfast and night meal. If it is your habit to have a lunch when you get home from school include this also.
    - 1. Plan a well-balanced lunch that you could bring from home. Using this lunch and your other meals, score your day's diet, using the second column of your score card. Correct and revise your menu where it is necessary.
    - 2. You will find a lunchroom menu on the desk. Select one of the menus and choose a well-balanced lunch. How much will it cost? Score this meal with the meals

- that you had at home as listed in A, using the third column of the score card. Make corrections where it is necessary.
- 3. What kind of sandwiches would you bring from home, and what would you buy from the lunch counter to make a balanced meal? Use the fourth column of the score card for this scoring.
- 4. If you should bring fruit and cake, or cookies, from home, what would you need to buy from the lunch counter to make a balanced meal? Score this meal as you have done before, using the fifth column of the score card.
- B. In which meals do you think you should definitely plan to include milk? Vegetables? Fruit? Whole grains? Protein materials?
- C. If you are to have eight glasses of water during the day, at what times should you take it?
- D. On my desk you will find menu cards of restaurants and tearooms.
  - Choose one of these menu cards that appeals to you, and decide whether you will select a dinner or a luncheon. Write your order.
  - 2. Plan the other two meals of the day to make a well-balanced diet.
  - Score your work in the sixth column of the score card, and make corrections.

Problem 4. How will our food expenditures show how well we

## are fed?

The amount that we may spend for food will differ with the size of the income, the number in the family, and the age of its members. When the income is small it will be necessary to spend as much as two-thirds of the income for food. On a larger income one may spend as little as one-quarter of the income for food. Some authorities say that our food budgets should be divided as follows:

- 1. For milk 1/5
  2. For fruits and vegetables 1/5
  3. For cereals 1/5
  4. For meat, fish, and eggs 1/5
- 5. For miscellaneous articles 1/5
- A. If you are allowed forty cents a day for an individual's meals, how much would you spend for each of these groups of food? How much would it allow you for incidental food expenses?
- B. The following figures show the cost of individual servings of some of the foods commonly served.

Proteins	Fruits and Vegetable:
Milk 30 Chicken 160 Hamburg 180 Lamb chops 100 Pork chops 60	Banana 3/46 Grapefruit 2d Prunes 1d
Roast beef 1446 Roast lamb - leg 1246 Fore quarter 656 Canned salmon 556 Haddock 756	Apples 1/2¢ Canned peas 4¢ Potatoes 1/2¢
Eggs 39 Cheese 1-1/29 Steak 122	Spinach 2¢

Cereals	Fruits and Vegetable (Continued)
Slice dark bread 10 Slice white bread 10 Cream of wheat with milk 20	Corn 2¢ Carrots 2¢ Beets 2¢
Oatmeal with milk 2¢ Shredded wheat	Incidentals
with milk 2-1/2d Corn flakes	Cake 3¢ Puddings 4¢
with milk 2−1/2¢	Pie 4d Cookies 2 for 1d

C. Bearing in mind the amount that you have to spend for each group of foods, and how many servings are necessary each day, plan a day's menu that will cost not more than forty cents. Compare the cost of your meal with a similar one that you would buy at a restaurant. How do you account for the difference in cost?

Problem 5. How does activity affect the food requirement?

A. Examine the various types of breakfasts, luncheons, and dinners outlined in Reference 1.

Copy these in your notebook for reference.

- B. Make a day's menu for each of the four types.
- C. Use columns seven, eight, nine, and ten to score your menus. Make corrections where it is necessary. You should by this time be able to make your plans so that corrections are not necessary.

Problem 6. What poor food habits have you that need correction?

In Problems 2 and 3 you were asked to score your meals.

Look over your score card and compare the scores in each group.

Do you find that you are habitually falling down on the same

item? In your notebook write a criticism of your diet. Can you give any good reason for a low score on certain items? How can you overcome your poor food habits?

You have now finished the required work. Check your papers carefully. In the card index on my desk you will find suggestions for extra work. Select a topic that appeals to you and have it ready to present to the class during the week of March fourteenth.

## Optional Activities

- 1. We have spoken of the special need that we have for calcium, phosphorus, iron, and iodine. What other minerals are necessary, and what is the use of each?
  You will find material for this work on the bulletin board, and in "Nutrition and Physical Fitness", Bogert.
- 2. Of what value is it to us to know that some of the vitamins are affected by heat, by storing, by air, by acids, by alkalies, by boiling? Which ones are so affected?
- J. Is there any danger of harmful results if we eat too much protein, fat, carbohydrates, minerals, vitamins?
- 4. By means of a chart, diagram, or any other means that you wish, show why each of the things listed in the score card is essential to provide for growth and regulation of body processes.
- 5. Milk, probably more than other foods, is the food that many people, especially adults, dislike. Plan ways in which an adult would get his one pint for a day without

- "drinking milk". Make your plans for one week. Find pictures of the foods that you have chosen and mount them, grouping together those that you plan to use in one day.
- 6. A family of five spends ten dollars a week for food. How much can they afford to spend on each of the divisions of the food budget? Use the same figures that you used in problem four. What will be the average cost per serving? What can they serve at this price? Ask me for a price list.
- 7. Mrs. Smith has planned the following dinner for her family.

  It is to be served at six o'clock:

Roast Pork with Apple Sauce
Baked Potatoes Turnip
Dressed Lettuce Hot Rolls
Baked Custard
Tea

Which of these foods are suitable to serve to Mary, who is four years old? Plan her supper, adding other foods as necessary. Mount pictures to show Mary's meals. You will find material in "Dietetics for High Schools", by Willard and Gillett.

- 8. Using Mrs. Smith's menu as a basis to work on, what could you use for eight year old John? What other foods would you need to add? Mount pictures to show his meals.
- 9. By means of pictures, show a good day's diet for a high school girl.
- 10. Can you plan a complete day's diet for one person for fifty cents a day? Remember that in figuring costs you

- should charge yourself for only the amount of rood that you actually use for the meal.
- 11. Plan an attractive breakfast, dinner, or luncheon that you think would be possible to serve during class time. Check the time required for the preparation of the meal carefully.
- 12. In "Food Preparation and Serving", by Bailey, and in "Nutrition and Physical Fitness", by Bogert, there are some suggestions for good food combinations, and attractive meals. You may either
  - (a) Prepare the material to present to the class,
  - (b) Work the material into a score card that the class could use to score meals on these points,
  - (c) Prepare a poster to illustrate the points given.
- 13. Find other score cards that we might have used to score our meals. Compare them with the one that we used.
- 14. Select one of the "Food Fallacies" listed in "Nutrition and Physical Fitness", Bogert. In a brief talk, or by means of a poster, show why the statement is unsound.

  (The "Food Fallacies" include such statements as "tomatoes cause cancer", "fish makes brains", "lobster and ice cream should not be eaten at the same meal", "you should not eat if you are not hungry".)
- 15. Choose one food that you dislike, but that you realize you should eat. Make a definite plan for teaching yourself to eat the food. You will find suggestions in "Dietetics for High Schools", by Willard and Gillett.

- 16. What is the relation of proper food and diet to success in school work?
- 17. Choose some country in which you are especially interested and find the typical breakfast, dinner, and supper of that people. Judge whether or not the people are well fed by scoring a typical day's menu with our score card.
- 18. List the causes of poor appetite. What may be done to stimulate an appetite?

## Test 1

Read the sentence carefully. Select a word or phrase from the column on the right that you believe fills the blank correctly. Place the number of the blank in the parentheses following the word that you have chosen.

Any substance that will	minerals and vitamins	(	)
give heat and energy, build	iodine	(	)
and repair tissues, and regu-	fats and carbohydrates	(	)
late body processes, is known	vitamin A	(	)
as (1). Food classes which	food	(	)
supply heat and energy are	proteins, minerals, and		
(2); those which build	vitamins	(	)
tissues are (3); and those	vitamin B	(	)
which regulate body processes	calcium and phosphorus	(	)
are (4). We are dependent	vitamin G	(	)
upon (5) to build bones and	vitamin X	(	)
teeth, and on (6) for rich	vitamin C	(	)
blood. A disease known as	iron	(	)

is not supplied in the foods
that we eat. A particular eye
disease, which may result in
blindness, will result if \_(8)
is lacking in the diet.

Paralysis of the nerves will result when diets are deficient in
\_(9). When food is eaten that
contains no \_(10) a disease known
as pellagra will develop.

Bread, karo, and potatoes are	protein	(	)
known as (11) foods; lard, butter,	vitamin B	(	)
and olive oil are classed as (12)	iodine	(	)
foods; cheese, dried beans, and	carbohydrates	(	)
fish are known as (13) foods.	vitamin A	(	)
Milk stands out as a source of the	vitamin E	(	)
mineral (14) . Two vitamins for	fat	(	)
which whole grains are essential	iron	(	)
are <u>(15)</u> and <u>(16)</u> . Cod liver	vitamin C	(	)
oil and the sun are valuable sources	vitamin D	(	)
of <u>(17)</u> . Fruits and vegetables	calcium	(	)
which contain the yellow color pig-			
ment, such as carrots, oranges, or			
butter, are good sources of (18).			

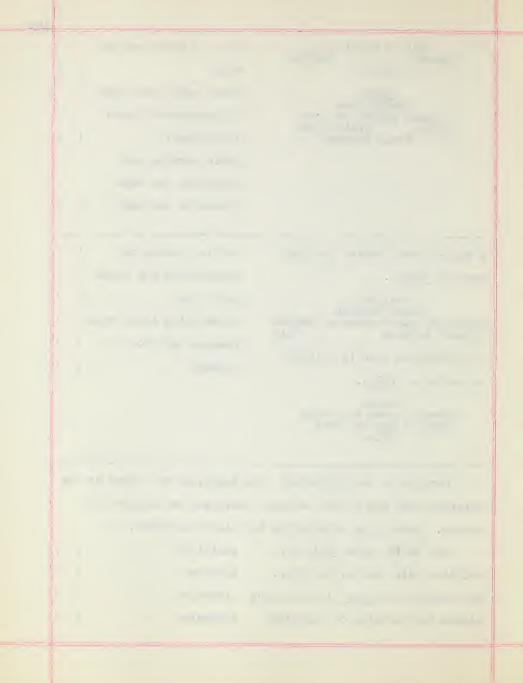
Uncooked fruits and vegetables supply (19).

Prunes Plain Muffins	adequate	(
Cream of Wheat with half cup milk Coffee One glass water	entirely missing	(
Vegetable Soup	two-thirds filled	(
Chipped Beef on White Toast Canned Pineapple Salad	inadequate	(
One cup milk	three-fourths filled	(
Cream Soup Roast Beef Potatoes Squash Spinach Rolls Apple Sauce and Cookies One glass water	one-fourth filled	(

In the above meal plan for the day, the requirement for milk is (20); the fruit requirement is (21); the vegetable requirement is (22); the whole grains are (23); the protein requirement is (24); and the requirement is (25) for water.

Each of the following meals violates a rule of menu planning. (26) Do not serve two foods Creamed Codfish Mashed Potato Canned Corn that are difficult to Stewed Tomatoes Tapioca Cream digest in one meal ( ) See that no one food (27) Macaroni and Cheese Potato Salad class predominates ( ) Rolls Sliced Tomato Apple Pie There should be con-(28)trast in texture ( ) Iced Fruit Juice Potato Salad Cold Boiled Ham Every meal should

Sliced Tomatoes ha Custard Cookies	ave at least one hot		
	ish	(	)
(29) Ne	ever serve two foods		
	f pronounced flavor		
	n one meal	(	)
Av	void serving two		
đi	ishes of the same		
fl	lavor at one meal	(	)
A well-chosen dessert for this ac	ctive growing boy	(	)
meal is (30).	ingerbread and cream	(	)
Bouillon ap Roast Chicken	pple pie	(	)
	oman doing light work	(	)
	eaches and cookies	(	)
in	nvalid	(	)
to serve to <u>(31)</u> .			
Orange Oatmeal,cream and sugar Dropped Egg on Toast Milk			
Can you do the following? The qu	uestions are based on	the	-
material that was on the bulletin boar			
topics. Here is an opportunity to rai	ise your grade.		
Our bodies need (1) for bu	uilding	(	)
building hair, nails, and skin. ca	alcium	(	)
The presence of (2) in the blood mi	inerals	(	)
allows the clotting of the blood ad	lequate	(	)



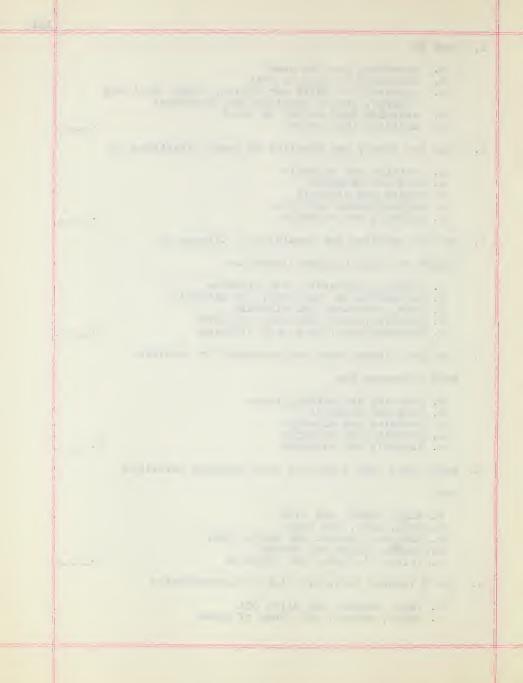
to close wounds. When food is fruits and milk should cooked in an open dish for a never be eaten at the long time (3) is destroyed. same meal Our bodies are capable of stor- sulphur ing the classes of food that are used for (4) when larger quantities are eaten than the body can use. A woman who can spend five dollars a week on her food makes the following expendi- success in school work tures for food: one dollar for milk; ninety cents for fruits and is improperly fed ( vegetables; one dollar and ten cents for meat; ninety-five cents for cereals; and one dollar and five cents for incidentals. She is (5) fed. Scientific facts do not back such statements as (6).

not adequate vitamin D iron energy vitamin C is impossible if one

## Test 2.

Read the question carefully. Select the part that you think completes the question correctly. Place the letter of the part you have chosen on the line at the end of the question.

l.	Food 1s	
	<ul> <li>a. something that we need</li> <li>b. necessary to give us heat</li> <li>c. necessary to build our bodies, supply heat are energy, and to regulate body processes</li> <li>d. anything that we eat or drink</li> <li>e. anything that we eat</li> </ul>	nd
2.	Heat and energy are supplied by foods classified as	3
	<ul><li>a. proteins and minerals</li><li>b. fats and vitamins</li><li>c. sugars and minerals</li><li>d. carbohydrates and fats</li><li>e. minerals and vitamins</li></ul>	2
3.	For the building and repairing of tissues we	
	depend on foods that are classed as  a. proteins, minerals, and vitamins b. carbohydrates, vitamins, and minerals c. fats, proteins, and minerals d. proteins, carbohydrates, and fats	
	e. carbohydrates, fats, and vitamins	3
4.	The food classes that are necessary to regulate	
	body processes are	
	<ul><li>a. proteins and carbohydrates</li><li>b. fats and minerals</li><li>c. proteins and minerals</li><li>d. proteins and vitamins</li><li>e. minerals and vitamins</li></ul>	4
5.	Some foods that supply us with building materials	
	are	
	<ul> <li>a. sugar, meat, and fish</li> <li>b. meat, milk, and eggs</li> <li>c. oranges, butter, and white flour</li> <li>d. starch, beans and cheese</li> <li>e. crisco, lettuce, and potatoes</li> </ul>	5•
6.	The following foods are rich in carbohydrates	
	a. lard, butter, and olive oil b. sugar, crisco, and cream of wheat	

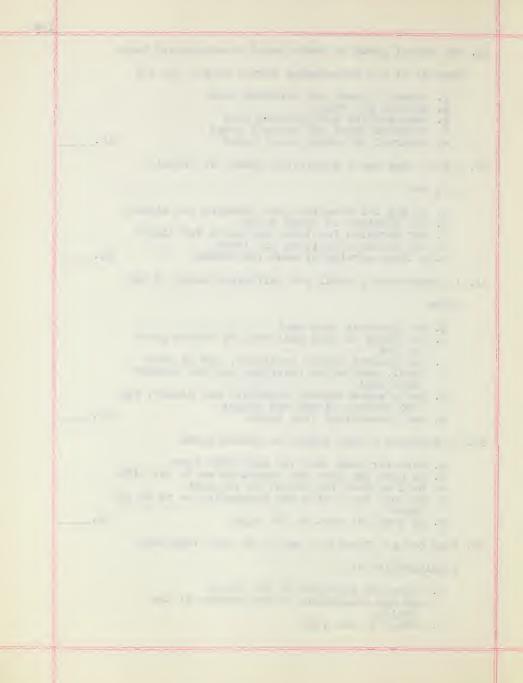


	d.	turnip, spinach, and onions potatoes, rice, and honey sweet potatoes, candy, and water	6
7.	Good	sources of fat are	
	b.	spinach, cream, and butter spry, cheese, lard bacon, butter, and olive oil	
	d.	milk, sugar, and starch oleomargarine, mackerel, and raisins	7
8.	We no	eed calcium in our diets to	
	b.	prevent anemia d. prevent scurvey prevent goiter e. build bones and teeth build tissue	8
9.	Iron	is used by our body for the	
	b. c. d.	red blood corpuscles white blood corpuscles cells of the body building bones and teeth energy	9
10.	A goo	od source of phosphorus	
	b. c. d.	whole grains, fish, and white bread cheese, milk, and whole grains green vegetables, cake, and yeast carrots, potatoes, and cornstarch onions, celery, and cookies	10
11.	Iodir	ne is found in	
	b.	flour d. salt water fish e. salt water taffy manufactured foods	11
12.	The r	nucous membranes will dry, and one will be	
	subje	ect to frequent colds, if the diet lacks	
	b.	vitamin D d. raw fruits and vegetables vitamin A e. iodine vitamin E	12.



13.	Beriberi, a paralysis of the nerves, is prevented	
	by including in our diets	
	a. vitamin C d. cod liver oil b. vitamin A e. yeast and whole grains c. white bread	13
14.	Some children who are poorly fed suffer from	
	rickets because their diets lack	
	<ul> <li>a. vegetables containing the yellow color pigment</li> <li>b. bread and milk</li> <li>c. vitamin D</li> <li>d. vitamin G</li> <li>e. water</li> </ul>	14
15.	Vitamin C is a vitamin that we associate with	
	a. fresh vegetables d. sunshine b. cooked fruits e. defective eyes c. pellagra	15
16.	A diet could be said to be adequate in fruit if we served during the day	
	<ul> <li>a. canned tomato</li> <li>b. an apple and stewed apricots</li> <li>c. baked apples and stewed prunes</li> <li>d. grapefruit</li> <li>e. apple sauce</li> </ul>	16
17.	A pint of milk a day is adequate for	
	a. a child under six d. growth b. a family of two e. an adult c. energy	17
18.	The following would meet the vegetable requirement	
	for the day	
	<ul><li>a. rice, lettuce, and squash</li><li>b. broccoli and onions</li><li>c. potato, spinach, onions, and tomato</li><li>d. potatoes and dandelions</li></ul>	
	e. potato, turnip, and parsnips	18

19.	The cereal group of foods would be adequately taker	1
	care of if the housekeeper served during the day	
	<ul> <li>a. cream of wheat and shredded wheat</li> <li>b. several hot rolls</li> <li>c. bran muffins and polished rice</li> <li>d. shredded wheat and oatmeal bread</li> <li>e. macaroni and whole wheat bread</li> </ul>	19
20.	I will have had a sufficient amount of protein	
	if I eat	
	<ul> <li>a. an egg for breakfast and mackerel for dinner</li> <li>b. two servings of baked beans</li> <li>c. ham sandwich for lunch and steak for dinner</li> <li>d. two cheese sandwiches for lunch</li> <li>e. a large serving of meat for dinner</li> </ul>	20
21.	In order that I shall get sufficient water, I may	
	drink	
	<ul> <li>a. one glass at each meal</li> <li>b. one glass at each meal and one before going to bed</li> <li>c. two glasses before breakfast, one at each meal, one before retiring, and one between each meal</li> </ul>	
	d. two glasses between breakfast and dinner, and two between dinner and supper e. one glass every four hours	21
22.	In planning a food budget we should spend	
	<ul> <li>a. more for meat than for any other item</li> <li>b. as much for fats and sugars as we do for milk</li> <li>c. half as much for grains as for meat</li> <li>d. as much for fruits and vegetables as we do for meat</li> </ul>	
	e. as much for meat as for eggs	22
23.	When one is planning a meal, the most important	
	consideration is	
	<ul><li>a. likes and dislikes of the family</li><li>b. age and occupation of the members of the family</li><li>c. season of the year</li></ul>	
		)



	d. income of the family e. cost of food	25
24.	The person who planned the following menu did not	
	take into consideration that a good menu must have	
	(Tomato Bisque, Creamed Codfish on Toast, Tapioca	
	Cream)	
	<ul> <li>a. an attractive color scheme</li> <li>b. pleasing combination of mild and strong flavored foods</li> <li>c. no one food class predominating</li> <li>d. some regard for the season of the year</li> <li>e. contrast in texture of foods</li> </ul>	24
25.	A menu such as this	
	Bouillon, Roast Beef, Baked Potatoes, Macaroni	
	and Cheese, Turnips, Hot Rolls, Baked Custard	
	<ul> <li>a. has too much fat</li> <li>b. has vitamins and minerals well supplied</li> <li>c. is a good warm weather meal</li> <li>d. is not well planned because all food classes are not well represented</li> <li>e. has all food classes well represented</li> </ul>	25
26.	The following meal would be improved if	
	(Fruit Cup, Chicken Salad, Potato Chips,	
	Cucumber Salad, Vanilla Ice Cream, Iced Tea)	
	a. a hot soup were substituted for the fruit cup b. a different flavored ice cream were served c. milk were used in place of tea d. fruit cup were omitted e. the potato chips were omitted	26
27.	A meal such as this	
	Tomato Soup, Salmon Loaf, Fruit Salad, Graham	
	Rolls, Prune Whip	
	a. has a good color scheme b. is too hearty a lunch for the average person	

	<ul> <li>c. is poor because of a predominance of foods of a pronounced flavor</li> <li>d. would be better balanced if white bread replaced the dark</li> </ul>	
	e. is suitable for a child's noonday meal	27
28.	For the average individual I would choose as a	
	dessert for this meal	
(	Chicken Broth, Roast Beef, Mashed Potatoes,	
	Squash, Onions, Dressed Lettuce, Rolls	
	<ul> <li>a. apple pie</li> <li>b. stewed apricots and vanilla wafers</li> <li>c. gingerbread</li> <li>d. Dutch apple cake</li> <li>e. Indian pudding</li> </ul>	28
29.	A breakfast best suited for a girl who rides to	
	school on the bus and will not have lunch until	
	the last lunch period is	
	<ul> <li>a. coffee</li> <li>b. toast and coffee</li> <li>c. four slices of bread and milk</li> <li>d. prunes, oatmeal, ham and eggs, muffins, and coffee</li> <li>e. orange juice, dropped egg on toast, muffins, and milk</li> </ul>	29•
30.	A good school lunch for a girl who works after	
	school, and has her dinner at night, is	
	<ul> <li>a. peanut butter sandwich and Hoodsie</li> <li>b. an orange, and a bottle of chocolate milk</li> <li>c. One cheese and jam sandwich, a bottle of milk, vegetable soup, an apple</li> <li>d. two jam sandwiches</li> <li>e. crackers and soup</li> </ul>	30
31.	There is no relationship between	
	<ul> <li>a. one's income and the amount that may be spent for food</li> <li>b. cost and nutrition of food</li> <li>c. age of individual and the kind of food he needs</li> </ul>	

	d. work of individual and the kind of food	
	that he needs  e. being well fed and success in high school	31.
How many of the following questions can you answer?		
They are based on the material that has been posted on the		
bulletin board and the special topics. Here is an opportunity		
to raise your score.		
1.	Sulphur is needed by the body for	
	a. bones and teeth b. hair, nails, and skin c. thyroid gland d. blood e. digestive juices	1
2.	When we cut our finger the blood must clot to stop	
	the bleeding. We depend for this on the mineral	
	a. calcium d. iodine b. phosphorus e. sulphur c. iron	2
3.	When foods which contain vitamins are cooked, the	
	cooking process will	
	<ul> <li>a. increase the power of the vitamins</li> <li>b. destroy all vitamins</li> <li>c. destroy all vitamins that are not soluble in water</li> <li>d. destroy the vitamins if the cooking is done quickly at a low temperature</li> <li>e. destroy vitamin C if the food is exposed to air during the cooking process</li> </ul>	3
4.	If our diets contain too great a quantity of fuel	
	foods our body  a. will grow thin b. temperature will rise c. will discard the extra food d. will store that which is not needed immediately	
	e. change the energy food to building food	4
5.	A woman who lives alone and spends five dollars	

a week for food uses one dollar for milk; ninety
cents for fruits and vegetables; a dollar ten
cents for meat, fish, and eggs; ninety-five cents
for cereals, and one dollar five cents for inci-
dentals.

- a. her diet is too rich in cereals
- b. she is spending too little for milk
- c. her expenditures indicate a well-balanced diet
- d. she is probably undernourished
- e. her expenditures are poorly distributed
- 6. The following menu is suitable to serve to (Cream Soup, Broiled Pork Chops, Potato Salad, Cauliflower, Turnip, Hot Rolls, Prune Whip with Soft Custard)
  - a. active adults d. children
  - b. old people
- e. inactive healthy adults
- c. invalids

- 7. Some statements such as "fish makes brains", and "stuff a cold and starve a fever"
  - a. are based on scientific facts
  - b. are unsound
  - c. have been proved in the lives of individuals to be true
  - d. may in future years have been proved to be true
  - e. are believed by most people

7.

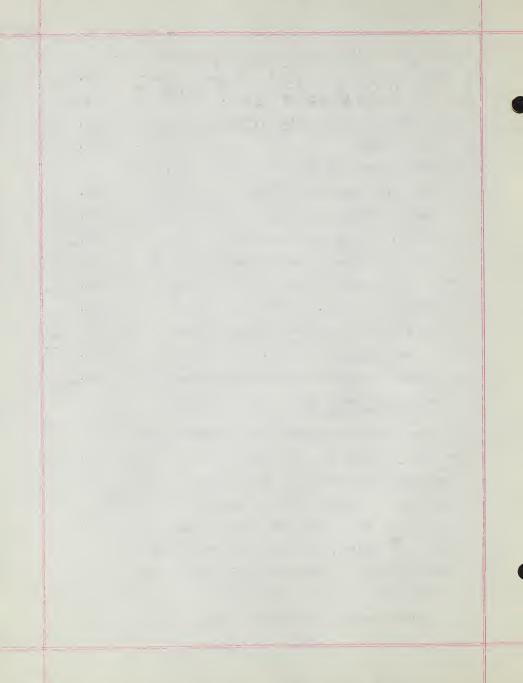
- 8. Extra milk may be added to the diet by
  - a. allowing milk to replace water
  - b. cream soup and custard
  - c. using cocoa and stews
  - d. using chowders and pudding sauces
  - e. using cream instead of milk

8.

# Test 3.

Write in the space at the end of the line the word, or		
group of words, which will complete the sentence correctly.		
Food is that substance which will (1), (2), and	1	
(3).	2	
Carbohydrates and fats are classes of food which	3	
are used for (4).	4	
Proteins, minerals, and vitamins are classes of foods		
that will (5).	5	
Minerals and vitamins are needed by the body for		
<u>(6)</u> .	6	
For strong bones and teeth we need the minerals (7)	7	
and (8), and also the vitamin (9).	8	
The red blood corpuscles need the mineral (10) to	9	
carry on their work.	10	
(11) is an excellent source of iodine.	11	
(12) is the best source of calcium.	12	
Yeast and whole grains are two of the best foods that		
will prevent (13), a disease caused by lack of	13	
vitamin (14).	14	
Raw fruits and vegetables are necessary to prevent		
(15), and disease which will result when vitamin	15	
(16) is lacking in our food.	16	
A diet which is deficient in vitamin E will result	17	
in <u>(17)</u> .	18	
If such foods as (18) and (19) were served during	19	

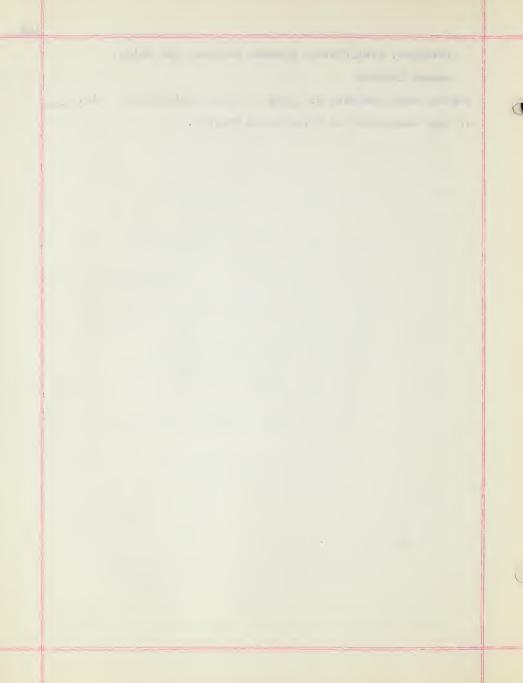
the day, the requirement for fruit would be adequate.	
A complete diet requires (20) servings of vege-	20
tables daily, one of which is (21).	21
(22) require a pint of milk each day, and (23)	22
will need a quart.	23
A serving of cream of wheat and a bran muffin would	
be (24) for cereal for one day.	24
Such foods as (25) and (26) if served during one	25
day will fill the protein requirement.	26
In planning the food budget, the expenditures for	27
(27), (28), and for (29) and (30) are	28
approximately the same.	29
The most important things to consider in menu	30
planning are (31) and (32).	31.
The following meal is poorly planned because (33)	33
Cream of Corn Soup, Shrimp Wiggle, Muffins, Chocolate Cream Pudding	
The following menu disregards the important rule	
that (34) Fruit Cup, Pork Chops, French Fried	34
Potatoes, Corn Croquettes, Lettuce with French	
Dressing, Gingerbread with Whipped Cream	
The following menu is not good because (35)	35
Iced Tomato Juice, Cold Roast Chicken, Potato	
Salad, Cucumbers, Strawberry Jello with Cream,	
Cookies, Milk	
The following menu is poor because (36)	36



Pineapple Juice, Creamed Salmon and Peas, Sliced	
Tomatoes, Rolls, Banana Pie	
A good dessert to serve with this dinner would be	
(37)	37 •
Bouillon, Broiled Halibut, Mashed Potatoes,	
Parsnips, Tomato Jelly Salad, Rolls	
A breakfast of the (38) is suitable to serve to a	38
high school girl.	
A (39) lunch is needed by a girl who must work for a	39
few hours before she goes home from school.	
How many of the following questions can you answer	? They
are based on the special topics and the material that w	as on
the bulletin board. Here is a chance to raise your gra	de.
The proper development of nails, hair and skin is	
dependent upon the mineral (1), which must be fur-	
nished by the food.	1
Body neutrality is preserved by a balance between the	2
minerals (2) and (3).	3
Boiling processes tend to destroy vitamin (4).	4
When one begins to "put on flesh", we can usually	
say that too much of the (5) foods have been eaten.	5
From the following adult's meal, (6) might be	6
chosen for a five-year-old girl's supper. For	7
dessert she could have (7). It would be unwise to	8
serve her (8), (9), and (10).	9
Cream of Pea Soup, Roast Lamb, French Fried	10

Potatoes, Cauliflower, Dressed Lettuce, Hot Rolls,
Banana Custard

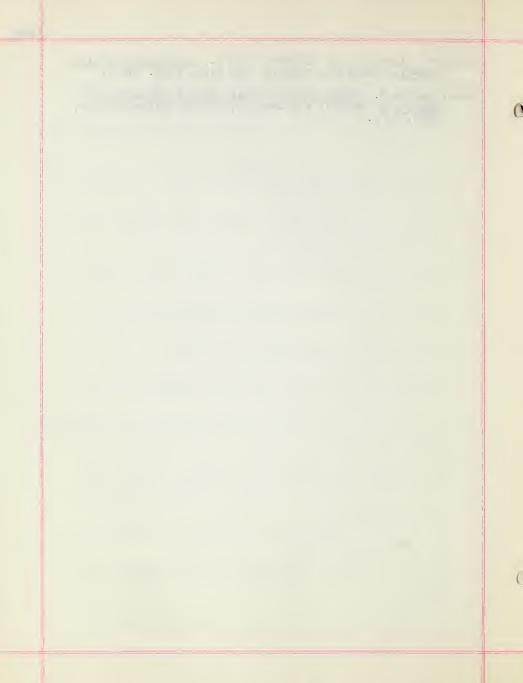
One may take the word of (11) for the reliability 11.\_\_\_\_\_
of such statements as "fish makes brains".



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#### CHAPTER V

### TABLE SETTING AND SERVING

## The Unit

The ability to set a table and serve a meal correctly, the desire to serve meals attractively and in an orderly manner.

### The Delimitation

- \*1. A definite place must be provided for eating meals.
  - A. A dining-room is planned for in most homes. It should be as near the kitchen as possible, large enough to seat all members of the family comfortably, and in good proportion to the rest of the house. An easterly exposure is ideal. Indirect lighting is preferred; otherwise the lights should be well shaded to prevent glare.
  - B. A section of the living-room may be converted into a place for serving meals in small homes where the size of the family, or the income, will not warrant the expense of the extra room. Table and chairs must be selected that are suitable to use in both rooms.
  - C. An alcove or nook sometimes takes the place of the dining-room. It is too small for general use in any but a very small family. It is best adapted for serving breakfasts.

- D. Meals are served in the kitchen in some homes, either from choice or necessity. It is not ideal to have to use the kitchen for this purpose, but if meals must be served there the housekeeper must be certain that the room is orderly.
- \*2. A table and chairs are necessary dining-room furnishings.

  A buffet, serving table, china closet, and tea wagon may be added if the budget permits. A suite of furnishings may be selected or pieces may be chosen from open stock.
  - A. About fifteen per cent of the furniture budget is allowed for dining-room furnishings.
  - B. In buying furniture, the following points should be considered:
    - (1) General appearance The surface should be smooth and even, and the turnings well done.
    - (2) Construction The upright supports should be in one continuous piece, and not doweled together. The furniture should be well braced, and the bracings screwed in place, not held by nails. Doors should fit, and the hinge should be heavy enough to support it. Drawers should be finished on the inside, and the joints should be dovetailed, and not glued together.
  - The attractiveness of the table depends upon the equipment used, its cleanliness, style, and design, and upon its placement on the table. Such equipment includes table

linens, silverware, glassware, and chinaware.

- A. The term "table linen" is used to cover all textiles that are used on the dining table, regardless of the fiber from which it is made.
  - (1) Linen, cotton, and to a certain extent rayon, are used for table linen.
    - (a) Cotton is the least expensive and has good wearing qualities. It absorbs and holds stains more readily than other fibers, and is, therefore, harder to care for. It is less lustrous than linen and, therefore, is less attractive for the table.
    - (b) Linen wrinkles easily. It is more expensive than cotton but it is worth the extra cost because it is easier to launder, and is more attractive on the table.
    - (c) Rayon for table linens is a comparatively new fabric. It is very attractive and launders and wears well.
  - (2) The silence cloth is made of heavy material, and is used to improve the appearance of the table, to protect the table from heat and moisture, and to deaden the sound of table equipment.
  - (3) Styles of table coverings include cloths, doilies, or runners.
    - (a) Table cloths may be purchased in two sizes.

- \*1) Dinner cloths should be large enough to hang over the table one foot. Damask linen is considered to be the best.

  Double damask is heavier than single damask, has better wearing qualities, and gives a better appearance to the table. It is made with a double set of filling threads. Colored cloths are seldom used for the formal table. Lace and embroidered cloths are becoming stylish. A formal setting for a dinner requires a cloth and not runners or doilies.
- \*2) Luncheon cloths are smaller than dinner cloths. They may just cover the table, or may hang a few inches over the edge. The housekeeper's choice regarding material, color, and design, is limitless.
  - 3) Cloths may be purchased by the yard or as "pattern cloths". Pattern cloths have a border on all four sides, while that purchased by the yard has a border only on two sides.
- (b) Doilies, or place mats, may be used at each person's place. One mat may be large enough for the entire cover, or a single doily may

be used for the serving plate, another for the glass, and one for the bread and butter plate. The table is less attractive when arranged in this way. Attractive mats may be made from almost any material. They may be embroidered, knitted, or crocheted.

- (c) Runners may be used when two or four persons are to be served, or they may be used in combination with matching doilies when the group is larger. Both runners and place mats may be used for breakfasts and luncheons, and are suitable for the informal or home dinner. They are less expensive, and more easily laundered.
- (4) Napkins are made to match the table covering in color, fiber, and design.
  - \*(a) The size of the napkin depicts its use.
    - Dinner napkins are from twenty to thirtytwo inches square.
    - 2) Luncheon napkins are from twelve to eighteen inches square.
    - Tea or bridge napkins are twelve inches square.
    - (b) The napkin is placed at the extreme left of the cover, one inch from the edge of the table, in such a way that the open corner is

pointing to the lower right.

- (c) Twelve napkins should be allowed for each cloth for the average family.
- \*(5) Table linen requires careful laundering in order to make it appear at its best.
  - \*(a) Stain removal is the first step in laundering.

    One must first determine the kind of stain and then choose a suitable solvent or bleach.
    - Cold water is effective for egg stains,
       for chocolate and cocoa, cream and milk.
    - 2) Lukewarm water is used to remove punch and meat-juice stains.
    - 3) Boiling water will remove coffee and fruit stains, and in combination with soap will remove grease.
    - 4) Blotting paper may be held over a candlewax stain and rubbed with a warm iron. The heat of the iron will melt the wax and it will be absorbed by the blotter.
    - 5) Such solvents as gasoline, benzene, and chloroform will remove gum and tumeric powder. These solvents are inflammable and care must be taken when they are used.
  - \*(b) Warm water and mild soaps are used for washing linens. They must be thoroughly rinsed and may be put in blueing water if desired. They

- should be hung in the air to dry, being careful to hang them evenly over the line. Colored linens should not be hung in the sun.
- \*(c) Linen is ironed partly dry on the wrong side,
  and then ironed dry on the right side. Embroidery must be ironed on the wrong side.
  Correct folding is important. All corners
  must be square.
  - 1) Doilies and runners should not be folded.
  - Round cloths are folded in halves lengthwise, and then in halves crosswise.
  - 3) A square or oblong cloth is correctly folded when it has only one crease, which is lengthwise. Since it is inconvenient to store table cloths folded this way, they may be folded in quarters lengthwise. No crosswise fold is ironed in.
  - 4) Fold napkins in halves, bringing the edge of the lower half to within an eighth inch of the upper half. Fold again lengthwise, making all edges even. Make crosswise folds in a similar way.
- \*(6) The "bestlinen", or that used occasionally, should be wrapped in blue paper, or placed in blue linen bags to prevent it from turning yellow. Runners and doilies are stored in drawers. If space

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permits, table cloths may be hung over a rod.

- B. Silver is used for tea services, serving dishes and flat wear (spoons, knives, forks).
  - \*(1) One may purchase sterling, solid, or plated silver.
    - (a) Solid articles are made of silver which is mixed with copper for strength, in the proportion of 925 parts silver to 75 parts copper.
    - (b) Articles that are marked "sterling" have a core of cheaper metal covered with the above compound.
    - (c) In plated ware a blank of cheaper metal is placed in a silver solution and the silver is deposited on the blank by an electric current.
      - Some manufacturers insert pieces of silver in the blank where it will receive the greatest wear.
      - 2) Triple and quadruple plate signifies a thicker coating of silver.
  - \*(2) Plain silver is beautiful but shows scratches
    more readily than silver having a design. The
    design should conform to the shape of the article.
    Elaborate designs and those having deep cuts are
    difficult to clean.

- \*(3) Silver may be purchased in the set or from open stock. Buying from open stock makes it possible for one to add to the silver service at any time.

  One should determine, if possible, how long the pattern will remain in stock.
  - (4) Silver should be washed in hot, soapy water, and wrinsed in boiling water, then dried with a soft cloth. Silver must be polished occasionally.

    There are many good polishes on the market. A good polish is free from grit, which scratches silver.
- \*(5) Silver should be kept in silver bags, or wrapped in black paper to prevent tarnishing.
  - (6) A well-set table has the silver correctly placed. All silverware is placed vertically on the table, about an inch from the edge of the table.
    - (a) Knives are placed at the right, cutting edge toward the plate.
    - (b) Forks are placed at the left, times up.
      - (c) Spoons are placed at the right of the cover, and right of the knife. The spoon to be used first is placed at the extreme right, and then in the order of their use.
      - (d) The salad fork is placed between the plate and the dinner fork.
      - (e) The bread and butter knife is placed on the

bread and butter plate. It may be diagonally across the upper right-hand edge; horizon-tally over the upper edge or butter plate, or vertically across the right-hand side of the bread and butter plate.

- (f) Serving forks are placed at the left, and knives and spoons at the right. They are placed five or six inches from the edge of the table.
- C. Glassware, popular for all kinds of dishes, but is most generally used for water glasses, goblets, salad sets, salt and pepper shakers.
  - \*(1) A particular kind of sand is used as the basis for glass making. Soda ash, potash, and nitrate are added to either lime or lead. Lime gives greater strength, and lead greater brilliancy.

    The materials are carefully mixed, and heated in closed sand retorts. The solution is boiled for a day at 2500 degrees Fahrenheit. It is then ready for shaping.
  - \*(2) Designs are applied by various methods.
    - (a) In the making of etched glass the article is covered with beeswax, leaving the design exposed. The article is dipped in hydrofluoric acid, which eats away part of the exposed glass.

- (b) Frosted glass is made by dipping the article while warm into finely ground glass.
- (c) Enameled glass has the design painted on to the article.
- (d) Pressed glass is made by pouring the moulten glass into a cast iron mold. It is pressed into the design of the mold with a plunger and allowed to cool. Polishing follows. Usually the line of the mold can be seen on the finished product.
  - (e) For cut glass, a thick piece of glass of the desired shape is used, and the design cut into the glass with cutting wheels. The design is deeper than pressed glass, the edges are sharper, the design is more ornate, and the glass has greater brilliancy.
- (f) The color of glass is due to the addition of certain minerals.
- \*(3) Glass should be inspected for imperfections and clearness. Rounded edges are less likely to chip than square ones. Edges are sometimes made thicker than the rest of the article to give better service.
  - (4) Glassware is washed in warm, soapy water, rinsed, and dried with a soft cloth. Strong soaps dissolve the gold on glassware. Sudden

- change of temperature of the water used will generally result in breakage.
- (5) Glasses or goblets are placed at the tip of the knife, and frappe and cocktail glasses are placed on a plate when serving food.
- D. The greater part of our tableware is crockery.
  - \*(1) Crockery is made from clay by mixing fine sand
    with water. The clay is shaped and then baked to
    make it firm. There are two types of crockery:
    - (a) Chinaware is opaque, and is usually thicker than other types. It has a glazed finish, but the body is porous.
      - (b) Porcelain is thinner and more brittle than chinaware. It is highly vitrified product, made by dipping the "biscuit" into glazing material and then heating it to a high temperature for several days to force the glaze through the article.
      - (c) Chinaware takes its name from the place where it is manufactured, as Chelsea; or from its manufacturer, as Spode.
    - (2) When china is being selected, one should look for
      - (a) Evenness of design and color;
      - (b) Smoothness and evenness of the glaze;
      - (c) Regularity of shape;
      - (d) Style which permits easy and thorough clean-

ing (the inside of the dish should be smooth
with no ridges or creases);

- (e) Rounded edges to prevent chipping;
- (f) Light-colored edges which show chips less conspicuously than dark ones.
- (3) China may be purchased in sets or from open stock.

  The latter way permits one to buy a few pieces at
  a time, and to replace broken ones. It is well to
  find out the probable length of time that the
  pattern will remain in stock before purchasing.
- (4) A closet is necessary for storing dishes. Plates and saucers may be stacked. Serving platters and plates may stand at the back or sides of the closet in back of the other dishes. Cups and small pitchers should be hung by the handles.

  Avoid crowding. It is inconvenient, and causes accidents.
- (5) China should be carefully washed and rinsed.

  Each piece should be dried separately to avoid chipping. When china is chipped the soft inner surface is exposed, which collects dirt and grease.
- (6) A well-laid table has the china correctly placed.
  - (a) Plates are placed between the knife and fork.
  - (b) Bread and butter plates are placed at the tip of the fork.

- (c) Saucers must always be placed under cups, and are placed at the right of the spoon, about an inch from the edge of the table.
- (d) Platters and tureens from which food is served, are placed in front of the person who is to do the serving, with the serving plates between the platter or tureen and the person.
- (e) Beverage pots are placed at the right of the person who is to serve, one to two inches from the edge of the table. Cups for the beverage are placed at the left with the handles pointing to the right.
- (f) Dishes for gravy, salad dressing, and sauces, should have a service plate placed under them.
- 4. Well-served meals require care and the observance of certain customs.
  - A. The mother of the family is the hostess, and her place is at the foot of the table. For informal service, her place is conveniently near the kitchen door; in formal service she sits where she can look into the kitchen.
    - (1) The hostess is the first to be seated at the table, and she begins the meal. She is the first to leave the table.
    - (2) The soup, salad, dessert, beverages, and sometimes

- the vegetables, are served by the hostess.
- (3) When the hostess is serving, she holds the spoon as she would hold a pencil, dipping the spoon into the food away from her, and placing the food on the plate in the same way.
- (4) When offering a second helping she should say,

  "May I serve you to beans?" never, "May I give you

  some more beans?" The response is, "Yes, please,"

  or "No, thank you."
- (5) In informal service the hostess places and removes each course. She may designate a member of the family to do this for her; otherwise, she will follow these rules:
  - (a) In placing a course, the serving silver is placed first, using a tray to carry it to the table. The food is placed next, and the plates last;
  - (b) In clearing a course, serving dishes are first removed, then the soiled plates;
    - All plates are removed from one cover before taking any from another,
    - 2) If there are several dishes to remove, the waitress first removes the largest plate with her left hand, passes it to her right hand, removes another plate, and places it on the first plate, then

picks up the third and carries it out in her left hand;

- (c) After the removal of the salad course the waitress will:
  - Remove any silver placed for a previous course that has not been used, and the salt and pepper shakers, removing one piece at a time to her tray;
  - 2) Remove crumbs, using a plate in her left hand and a clean napkin in her right hand;
  - 3) Refill the water glasses;
- 4) Place serving silver, and individual spoons or forks;
  - 5) Place dessert;
    - 6) Place dishes for the dessert.
- (d) Dishes may be placed from the left, and removed from either the left or right, except water glasses, and cups and saucers, which must be placed and removed from the right.

  A waitress must never reach in front of a person.
- (6) Formal service requires the service of a maid or butler.
  - (a) English service is the least formal. The food is served by the host and hostess, and the filled plates are passed to each person

by the maid.

- (b) Russian service is the most formal.
- 1) The plates may be prepared in the kitchen and placed before each person.
  - 2) The serving dishes may be passed by the waitress, and each person allowed to help himself.
- (c) In the combination service, some of the courses are served English style, and the others are served Russian style.
- (7) It is possible, if one has a tea wagon or small serving table that can be placed at the right of the host or hostess, to plan a meal that may be served without making it necessary for anyone to leave the table to change courses. The table is used for the food to be served at the last few courses of the meal, and also for soiled dishes.
- B. The host is the father of the family, and his place is at the head of the table opposite the hostess.
  - (1) The host serves the main dish of the meal. It is his duty to carve the meat.
  - (2) He holds the fork in his left hand and the knife in his right, with the end of the handle resting in the palm of his hand and the index finger of either extending along the handle for better control of the knife or fork.

- 5. Good table manners express culture. They include the practise of such points as:
  - A. The napkin is folded double across the lap. It is used to wipe the fingers and lips during the meal, and must be used after drinking. The fingers are wiped on the napkin after the finger bowl has been used. At the end of the meal members of the family fold their napkins. Guests may lay the napkin unfolded at the left of the plate, or refold it, and allow one edge to hang over the edge of the table.
  - B. A fork is held in the left hand when one is using it to hold food that is being cut with a knife. The handle of the fork rests in the palm of the hand, and the fore-finger extends along the handle. It is held in the right hand as one holds a pencil when carrying food to the mouth.
  - C. The knife is used only to cut food. It is held in the right hand in exactly the same way that the fork is held for holding the food while it is being cut.
  - D. Bread, relishes, and butter are placed on the bread and butter plate.
  - E. Bread is broken into at least quarters, and held on or over the bread and butter plate while it is being spread with butter.
  - F. The bread and butter knife is used only to spread butter on bread.

- G. The soup spoon is held as the fork was when it is used to carry food to the mouth. It is dipped into the soup outward, and the soup is sipped from the side, not the tip, of the spoon. Crackers are not dipped into the soup. When a bouillon cup is used, the spoon is used to test the soup for heat and seasoning, then it is laid in the saucer. The cup is raised by one handle and the soup is drunk.
- H. Salad is cut with the fork, and not the knife.
- I. Finger bowls are for washing the finger tips only.
  Dip the finger tips into the bowl one hand at a time,
  and wipe them on the napkin.
- J. Food is chewed with the mouth closed, and as quietly as possible. The mouth should not be crowded.
- K. When passing dishes, the handle should be turned toward the person who is to receive it.
- L. When plates are passed for a second helping, the knife and fork are left on the plate close together.
- M. When one has finished eating, the knife and fork are placed together, either near the upper right hand edge of the plate or in the center, handles pointing toward the person. The knife is left at the right with the cutting blade toward the fork.
- N. The handles of the knife and fork never rest on the table cloth, and soiled silverware must never be placed on the cloth.

O. Celery, wafers, radishes, olives, bread, and cakes are eaten with the fingers.

## The Assignment

If you were asked to name the occasion that makes you feel the most light hearted, and gives you a most friendly feeling toward members of your family, would you not say that it is while you are gathered together for a family meal? Sometimes this is the only time of day that all members of the family are together. It should be a time of pleasant relaxation, free from the cares and worries of work. To make this meal move smoothly, it is the homemaker's job not only to see that the meal is well cooked, but that the table is attractively arranged. Common usage has established certain manners and customs. We should learn to abide by them.

Problem 1. What equipment is necessary for an attractive and well-set table?

- A. What table linen is necessary? All textile materials used on the table, regardless of their fiber, are known as "table linens".
  - 1. Which of the following fibers are used for table
     linens? Cotton, linen, woolen, silk, synthetic
     fibers (rayon).
  - 2. How would you compare materials made from these fibers as to appearance, cost, wearing qualities, ease in cleaning, and stain removal?

- 3. What is a silence cloth? Why is it used? Of what material is it made?
- 4. What styles of table coverings are popular? Which styles do you think are best for common use? How is each placed on the table?
- 5. Why are napkins necessary? Describe their position on the table. What do you do with the napkin during your meal?
- B. What silverware is necessary for the meal?
  - 1. Find illustrations that will show you where to place knives, forks, bread and butter spreaders, teaspoons, and soup spoons. Where is serving silver placed?
  - 2. How far from the edge of the table is silver placed?
  - 3. How is silver washed and cleaned?
- C. Where is china placed?
  - Make a list of the pieces of china and glassware that you feel are necessary for the serving of a simple meal.
  - 2. Where would you place each piece that you have mentioned?
- D. What is the meaning of the word "cover" as used in table setting?
- E. On a piece of notebook paper draw a diagram to show the arrangement of a cover for the following meals or, if you prefer, you may find pictures of equipment and paste them in place. Breakfast Grapefruit, Cream of Wheat, Cream,

Sugar, Omelet, Muffins, Milk. Dinner - Bouillon, Roast Beef, Franconia Potatoes, Buttered Carrots, Dressed Lettuce, Orange Sherbert, Cookies, Coffee.

Problem 2. How shall we serve the meal?

It is not necessary to be rich and employ a waitress to have meals that are served attractively. Dainty table service depends more upon the culture and education of the family than upon financial standing. In Problem 1 you learned how to set a table properly. Now we will consider how to serve the meal attractively. In most of the homes of today no maid is employed, and so we will serve our meal without the help of a waitress. Let us suppose that this meal has been prepared - Cream of Tomato Soup, Pot Roast, Potatoes, Carrots, Dressed Lettuce, Rolls, Apple Tapioca with Cream.

- A. Draw a diagram to show how the table should be set for this meal for a family of four. What would you place on the buffet or serving table?
- B. How is the meal announced?
- C. Who is the hostess?
  - 1. Where does the hostess sit at the table?
  - 2. What foods does the hostess serve?
  - 3. What are the responsibilities of the hostess?
- D. Who is the host?
  - 1. Where does the host sit at the table?
  - 2. What foods does the host serve?
- E. Which of the foods in the menu might you place on the

table before the meal is announced?

- F. How is the soup course served?
  - 1. Would you use bouillon cups or soup plates for the course?
  - 2. Who serves the soup?
  - Where is the soup tureen placed? (Dish from which the soup is served.)
  - 4. How is the soup ladle held for serving the soup?
  - 5. How are the plates passed?
  - 6. Who would you suggest be responsible for the clearing of the table after this course?
  - 7. How does one clear a course?
    - (a) Which is removed first, the tureen, or the soup plates?
    - (b) On which side of the person should the waitress stand when removing the plates? Which hand does she use?
  - 8. How would you describe the serving of this course if fruit cup had been served instead of the soup? What dishes should you use?
- G. When the main course is served, it will be necessary to bring the food to the table, place the serving spoons and the caring knife and fork, and place the plates for serving.
  - 1. In what order should these things be done?
  - 2. Who carves the meat? Who serves the vegetables?

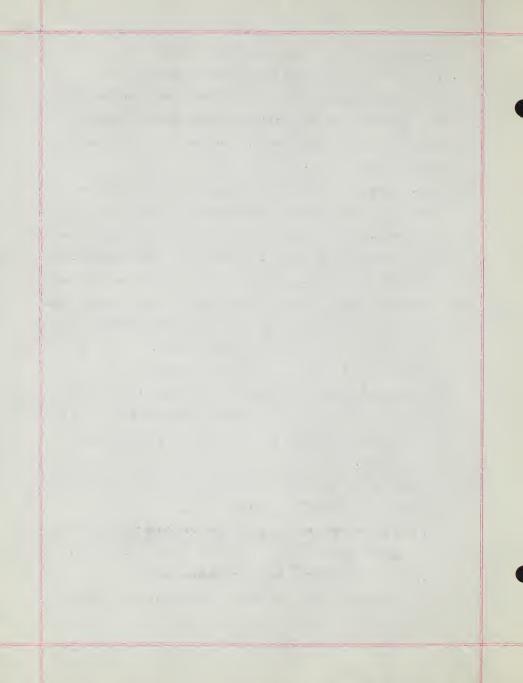
- 3. Draw a diagram to show where you would place the platter of meat and the vegetables for serving, and where you would place the serving spoons, carving knife and fork.
- 4. How would you clear this course?
- 5. Salad may be served as a separate course, or with the main course. Where should it be placed in either case? Under what circumstances is it necessary to provide a salad fork?
- 6. What kind of a cup would you use when the coffee is served with the main course?
- H. In many homes after the main course has been removed, the water glasses are refilled, the salt and pepper shakers removed, and the crumbs removed before placing the silver for the dessert.
  - 1. In what order should you do these things?
  - 2. When will you use a tray for placing and removing food, silver, and dishes?
  - 3. How are water glasses refilled?
  - 4. What do you use for removing crumbs?
- I. How does the order of placing food, silver, and dishes for the dessert compare with the placing of similar things for the main course?
  - 1. How is the dessert served?
  - 2. If coffee is served with the dessert course, what kind of a cup would you use?

- 3. What about the clearing of this course?
- J. If one owned a small serving table or tea wagon, it is possible to arrange the food on these tables and no one will need to leave the table to change dishes and carry in the food for the next course. Can you suggest how this might be done?

Problem 3. What habits must one acquire to cause people to say, "She is very well mannered at the table"?

Lucretia P. Hunt has said that the "greatest test of good breeding is given at the table". Customs are passed down from one generation to another. They have been established for the convenience and comfort of the group. We find some changes made necessary to meet modern problems, but thoughtfulness for others has, and always will be, the main consideration.

- A. How are you going to handle your silverware?
  - 1. Study pictures and diagrams to find out the correct way to hold a fork when food is being carried to the mouth, and when the knife and fork are being used together.
  - 2. How is the knife held? Where is it placed when not in use?
  - 3. How do you use a spoon for the following: vegetables, dessert, soup, bouillon, tea and coffee, fruit cup?
  - 4. How is a bread and butter spreader used?
- B. What are the uses for the napkin? How would you use it?



- C. When you have finished the meal, what would you do with the silverware and dishes?
- D. What is the correct way to eat salad?
- E. Where will you place your serving of butter, jelly, pickles, bread, celery?
- F. Find a picture that will show you how to spread butter on bread. Should you break the bread or should you spread the entire slice with butter before eating?
- G. How would you pass dishes of food?
- H. What should you do with the knife and fork when the plate is passed for a second serving?
- I. What should you say when you are offering a second serving to your guest?
- J. The first two people to finish the work may arrange our dining-room table for the serving of the above meal. They may invite two other girls to be guests. Demonstrate the serving. The remaining members of the group are to criticise the work of the "family".

You have now finished the required work. You will find suggestions for extra work on cards on my desk. Please write your name and group number on the back of the card, and have your topic ready to discuss with the class during the week of April fourth. If you have a problem of your own that is not suggested on one of the cards, ask me about following your own line of work.

## Optional Activities

- 1. Develop the subject of "table linens". The class will want to know about the manufacture of linen, what one should know when buying linen, and in what size table cloths and napkins are available.
- 2. Develop the topic of silverware. What is the difference between sterling silver, solid silver, and plated silver? How are these manufactured? What constitutes a good pattern in silverware? Prepare an exhibit of as many of these kinds as you can find. (We have some pieces in the laboratory, and you may bring some from home, but do not do so without your mother's permission.)
- 3. Many people are interested in the study of china as a hobby. They want to know how it is manufactured; the differences between pottery, china, porcelain, and bone china; how the patterns are applied; and the appearance of the different kinds of china.
- 4. What is pewter? What pieces of dining-room equipment are made of pewter? Of brass? What can you find about chromium finished dishes? The class would enjoy seeing some of the articles that are made from these materials.
- 5. Linen must be carefully laundered in order that it may look its best. Tell the class how this is done. Show the class how to fold table cloths and napkins.
- 6. What can you find about the history of silverware?

- 7. What can you find about the history of glass?
- 8. What can you find about the history of chinaware?
- 9. Table equipment should be carefully stored. What provision would you make for storing linen, china, and silver? This may be prepared and given orally to the class or you may submit drawings.
- 10. What new furnishings would you like to select for the school dining-room? You will have to consider style, kind of wood, workmanship, and the number and kind of pieces that will be necessary. Describe each of these points. Make a choice from some mail-order catalogue, and show it to the class. If you see a suite in a local store window you may ask us to look at it and judge your choice.
- 11. Some people use their dining-room for all meals. In some small houses people plan to use one end of the living-room. Some people eat in their kitchen. If you were planning to build a home, what would be some of the points that you would consider in choosing a meal-serving center? What qualifications should each possess? Show pictures to the class of an attractive set-up for each of the centers mentioned.
- 12. We should be slow to criticise a person's table manners until we know the customs of his family. What society expects of well-bred people in one country is often frowned upon in another. For instance, in India the more noise one makes when sipping soup, the more gracious his

- host considers him. In America, the well-bred person eats as quietly as possible. What table manners and customs are typical of different nations?
- 13. Organize a group to demonstrate to the class the serving of a meal by the English, Russian, or combination styles.
- 14. Prepare an exhibit of different kinds of table coverings.

  These should be actual coverings and not pictures. Ask

  members of the group if they have something to contribute.

  They may be glad to show samples of their handicraft.
- 15. Make a simple luncheon set. This may be runners or place mats. If you have a table cloth at home which has worn in spots you may make it over into table runners or doilies.

  Be sure that you have your mother's permission to cut any table cloth that you may find.
- 16. Using the equipment in the laboratory, arrange a tray for an invalid for a simple breakfast. It is important when serving invalids to make the tray as attractive as possible. Sometimes a favor, or an unusual method of arranging food is appealing to a sick person. Make your tray especially pleasing to one of the following: a five-year-old boy or girl; a ten-year-old child; a fifteen-year-old boy or girl; an adult; an elderly person.
- 17. Our tables are more attractive if there is a simple decoration. Show in some way decorations that would be attractive for a simple family meal, or show decorations that would be appropriate for five holidays. A birthday

- of a member of the family may be one of the holidays.
- 18. Attractive favors add to the appearance of the table and the sociability of the group. Make ten simple favors that would be appropriate for general use or some special occasion. You may work with the girl who has chosen Number 17 if you wish, and make your favors to go with her table decorations.
- 19. Write a formal invitation to a friend inviting her to dinner at your home. Accept or decline the invitation.
- 20. Write an informal invitation to a friend inviting her to lunch at your home. Accept or decline the invitation.
- 21. Accidents often occur and the table cloth is stained. What would you do to remove the following stains: egg, chocolate or cocoa, cream or milk, fruit, fat, gum, meat juices, punch, grease, coffee, tea, candle wax, tumeric powder?

  You may make a chart or give this as an oral talk.
- 22. Many informal meals are cooked at the table by electricity.

  What pieces of equipment will be necessary for this work?

  Show pictures of these pieces, or actual pieces, to the class. Plan a meal that could be prepared at the table.
- 23. What style of dress is suitable to wear to a formal dinner?

  To an informal dinner? An informal lunch? Select pictures

  of these dresses and accessories and mount them on a chart.
- 24. Locate on a map of the world the places where chinaware is manufactured.
- 25. Locate on a map of the United States places where glassware

is manufactured.

- 26. Locate on a map of the United States the places where furniture is manufactured.
- 27. Locate on a map of the United States the cities where silverware is manufactured.
- 28. The book "Marietta Maid of Venice" by Marion Crawford, tells the story of a Venetian glass blower. In your report tell us what you have found out about Venetian glass.

## Test 1.

Read the sentence carefully. Decide what word should go in the blank and find the word in the column at the right.

Place the number of the blank on the line of the word chosen.

Place mats, runners, and	as a pattern cloth	(	)
table cloths, are less expensive	left of platter	(	)
when they are made from (1), but	napkin	(	)
are very much more attractive and	right	(	)
will launder more easily if made	cotton	(	)
from (2). A cloth which has a	right of knife	(	)
central design and a border on four	left of salad fork	(	)
sides is sold <u>(3)</u> . The article	host	(	)
at the extreme left of the cover is	by the yard	(	)
the <u>(4)</u> . One should place the	tip of the fork	(	)
knife at the <u>(5)</u> ; the dinner fork	right of the plate	(	)
at the (6) of the salad fork;	hostess	(	)
the bread and butter knife at the	linen	(	)
(7); and the spoon at the (8).	cup and saucer	(	)

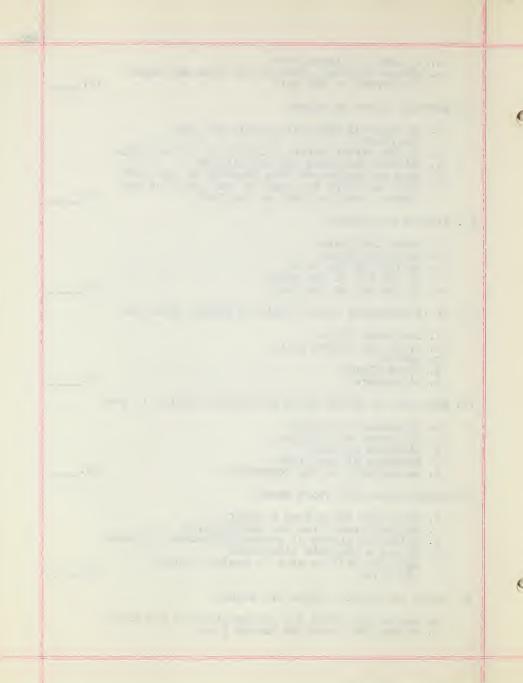
The carving knife is placed at the	on bread and butter		
(9) of the (10). The glass is	plate	(	)
placed at the (11), and the	left	(	)
bread and butter plate at the	tip of knife	(	)
(12)			
When one purchases china from	soiled dishes	(	)
open stock, one knows that it will	serving silver	(	)
be (13) to replace any broken	right	(	)
pieces. The host should always	impossible	(	)
serve the (14). When the wait-	bread and butter		
ress is placing a course she al-	plate	(	)
ways places the (15) first, then	serving plates	(	)
the <u>(16)</u> , and the <u>(17)</u> last.	left hand	(	)
When one is removing a course the	remaining food	(	)
(18) is taken off first, then the	right hand	(	)
(19). When the waitress removes	possible	(	)
the main course she should stand on	salad plate	(	)
the <u>(20)</u> , and with her <u>(21)</u>	soup	(	)
remove the (22), passing it to her	food to be served	(	)
(23) . She then removes the	left	(	)
(24), and carries out the (25)	main dish	(	)
in her hand.	dinner plate	(	)
		-	
After the main course has	as one holds a pencil	L(	)
been removed and before the dessert	refill glasses	(	)

is placed, the waitress should	over the bread and			
first (26) at the same time	butter plate	(	)	
that she <u>(27)</u> , then she <u>(28)</u> ,	remove the salts and			
and last before placing the	peppers	(	)	
dessert she will (29). When one	in his hand	(	)	
passes his plate for a second serv-	remove extra silver	(	)	
ing his knife and fork are (30).	with end of the			
When ice cream is being eaten the	handle in the palm			
spoon is held <u>(31)</u> . When one is	of the hand	(	)	
spreading butter on the bread, the	remove crumbs	(	)	
bread is held (32).	left of plate	(	)	
An indication that furniture	eighteen to twenty	(	)	
is well made is the fact that the	cold water	(	)	
sides of the drawers are (33)	crash	(	)	
together. Figured linens used for	damask	(	)	
the table are sold as <u>(34)</u> . A	first	(	)	
table cloth that just fits the top	dinner	(	)	
of the table is used correctly for	English	(	)	
a <u>(35)</u> . Dinner napkins are	glued	(	)	
(36) inches square. To remove	third	(	)	
egg and milk stains one should use	twenty-seven to			
(37). Fruit stains are removed	thirty-two	(	)	
by using (38). If the filled	luncheon	(	)	
soup plate is brought in by the	Russian	(	)	
waitress and placed before each	boiling water	(	)	

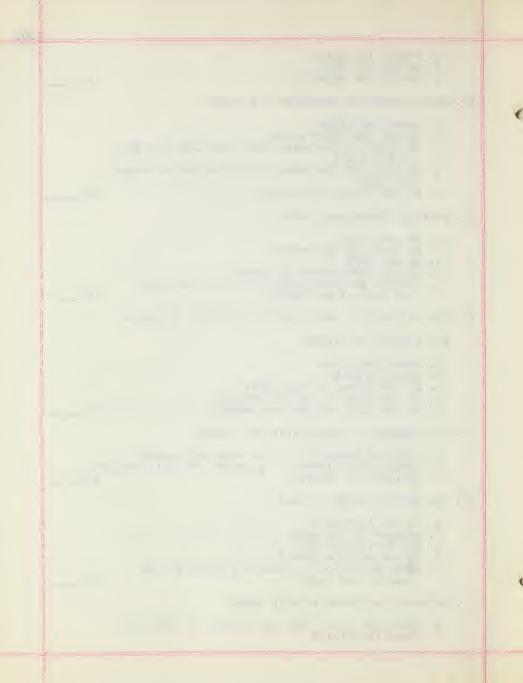
guest, and the dessert is served	dovetailed	( )
by the hostess, the (39) style	combination	( )
of serving has been followed. For-		
mal invitations are written in the		
(40) person.		
Test 2.		
Read the entire question carefull	y. Select the par	t that
completes the sentence correctly, and p	lace the letter of	the
part on the line with the number. Ple	ease use a capital	letter.
1. Table linens are considered to be	best when made fro	m
a. cotton d. linen b. rayon e. cotton c. cotton and rayon		1
2. A silence cloth is		
<ul> <li>a. needed to prevent the table cling soiled</li> <li>b. needed to protect the table to table more attractive</li> <li>c. used under rugs for protection</li> <li>d. a thin cotton fabric</li> <li>e. an unnecessary luxury</li> </ul>	op, and make the	2
3. A table cloth which is known as a	pattern cloth	
<ul> <li>a. has no border, as the pattern edge of the cloth</li> <li>b. has colored figures in blocks</li> <li>c. is one that may always be dupl</li> <li>d. is figured rather than plain</li> <li>e. has a border on all four sides</li> </ul>	icated	3•
4. A table that is set for five will	be more attrac-	
tive if		
<ul> <li>a. runners are used</li> <li>b. a square cloth is used and pla</li> <li>on the table</li> </ul>	ced diagonally	

	<ul><li>c. place mats are used</li><li>d. place mats are combined with runners</li><li>e. paper mats are used</li></ul>	4
5.	The napkin is placed	
	<ul> <li>a. above the plate</li> <li>b. at the left of the cover with the fold next to the plate</li> <li>c. at the left of the cover with the free corner of the napkin in the lower right-hand corner</li> <li>d. on the plate</li> <li>e. at the extreme right of the cover</li> </ul>	5
6.	Knives are placed	
	<ul> <li>a. at the left of the plate</li> <li>b. at the right of plate with cutting edge toward the plate</li> <li>c. at right of plate with cutting edge away from the plate</li> <li>d. beside fork at the right of plate</li> <li>e. beside fork at the left of plate</li> </ul>	6
7.	Forks are placed	*
	<ul> <li>a. above the plate</li> <li>b. at left of the plate with the times down</li> <li>c. at right of plate with the times up</li> <li>d. at left of plate with the times up</li> <li>e. above the plate</li> </ul>	7
8.	Spoons are placed	
	a. at the right of the knife b. at the left of the fork c. at the left of the knife d. at the right of the fork e. above the plate	8
9.	The bread and butter plate is placed	
	a. above the knife b. above the plate c. above the fork d. beside the fork e. beside the knife	9
10.	The correct place for the salad fork is	
	<ul><li>a. at right of plate</li><li>b. above the plate</li><li>c. between plate and dinner fork</li></ul>	

	d. at left of dinner fork e. placed on salad plate at the time the salad is served by the maid	10
11.	Serving silver is placed	
	<ul> <li>a. at right of plate, with knife and fork together</li> <li>b. on the latter before bringing it to the table</li> <li>c. between the plate and the platter</li> <li>d. with the knife and fork together at the left</li> <li>e. with the knife and spoon at the right of the server, and the fork at the left</li> </ul>	11
12.	Glasses are placed	
	<ul><li>a. above the plate</li><li>b. above the spoon</li><li>c. at left of the cover</li><li>d. at the tip of the knife</li><li>e. at the tip of the fork</li></ul>	12
13.	It is necessary that a plate be placed under the	
	<ul><li>a. ice cream glass</li><li>b. bread and butter plate</li><li>c. goblet</li><li>d. water glass</li><li>e. silverware</li></ul>	13
14.	When one is buying china she should examine it for	
	a. thickness of design b. thickness of the dish c. fineness of glaze d. evenness of the glass e. naturalness of the decoration	14
15.	Buying from open stock means	
	<ul> <li>a. selecting china from a shelf</li> <li>b. buying direct from the manufacturer</li> <li>c. selecting pieces of several different patterns</li> <li>d. buying a complete dinner set</li> <li>e. that one will be able to replace broken articles</li> </ul>	15
16.	Bread and butter knives are placed	
	a. beside the bread and butter plate at the right b. across the bread and butter plate	

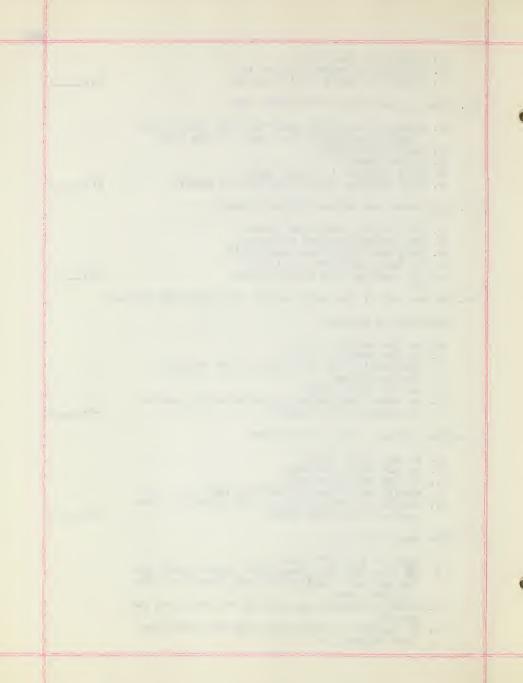


	<ul><li>c. beside the knife</li><li>d. beside the fork</li><li>e. beside the napkin</li></ul>	16
17.	Cups containing beverages are placed	
	<ul><li>a. above the plate</li><li>b. beside the water glass</li><li>c. at right of the cover, one inch from the edge of the table</li></ul>	
	<ul> <li>at right of the cover, with the handle toward the left</li> <li>at the left of the cover</li> </ul>	17
18.	Serving dishes are placed	
	<ul> <li>a. at the right</li> <li>b. in front of the server</li> <li>c. at the left</li> <li>d. passed from person to person</li> <li>e. between the knife and fork, one inch from the edge of the table</li> </ul>	18
19.	The coffee pot, when used at the table for pour-	
	ing coffee, is placed	
	a. above the plate b. near the host c. in the center of the table d. at the left of the one serving e. at the right of the one serving	19
20.	The hostess is responsible for serving	
	a. fish and dessert b. bread and relishes c. entrees and jellies d. soup and dessert e. salad and main course	e 20
21.	The carving knife is held	
	<ul> <li>a. in the left hand</li> <li>b. grasped in the hand</li> <li>c. any convenient way</li> <li>d. as one holds a pencil</li> <li>e. with the end of the handle resting in the palm of the hand</li> </ul>	21
22.	A course is placed in this order	
	a. first the food, next the silver for serving, then the plates	

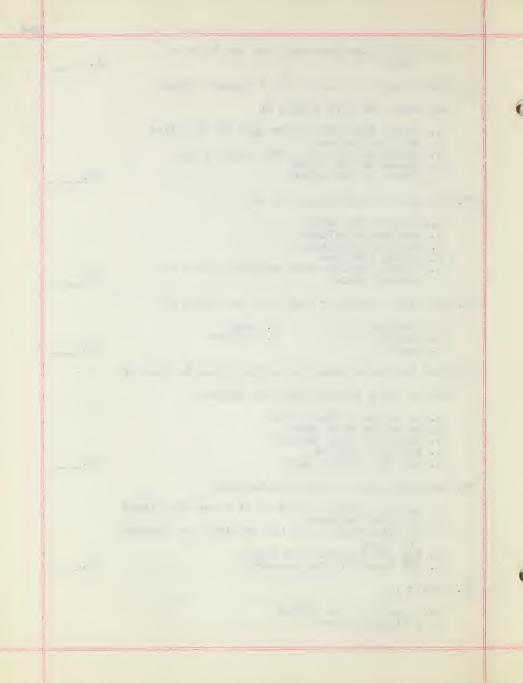


	b. first the serving plates, next the silver, then the plates	
	c. first the serving silver, next the food, then the serving plates	
	d. first the serving silver, next the plates, then the food	
	e. first the serving plates, then the food, and last the serving silver	22
23.	Whenever a course is removed the order is always	
	<ul> <li>a. first soiled plates, then soiled silver, and last the platters of food</li> <li>b. first the food, then the soiled dishes</li> <li>c. first the soiled dishes, then the food</li> <li>d. the silverware first, then the food, and then the soiled plates</li> </ul>	
	e. the food, then the soiled dishes, then the extra silver	23
24.	A waitress should	
	a. use her left hand to remove dishes when she stands at the left of the person b. stand at the left when refilling the glasses c. use her right hand when she stands on either the right or left of a person d. never remove or place from the right e. always stand at the left of the person	24
25.	After the main course has been removed, and	
	before the dessert is served, the waitress should	
	do her work in this order	
	a. remove silver, refill the glasses, remove salts and peppers	
	b. remove silver and salts and peppers, then remove the crumbs	
	c. remove crumbs and extra silver, and refill glasses	
	d. refill glasses, remove extra silver, and remove crumbs	
	<ul> <li>e. remove all silver that has not been used, remove salts and peppers, remove crumbs,, and refill glasses</li> </ul>	25
26.	During the meal the napkin is	
	a. tucked in the belt of the dress b. doubled across the lap	

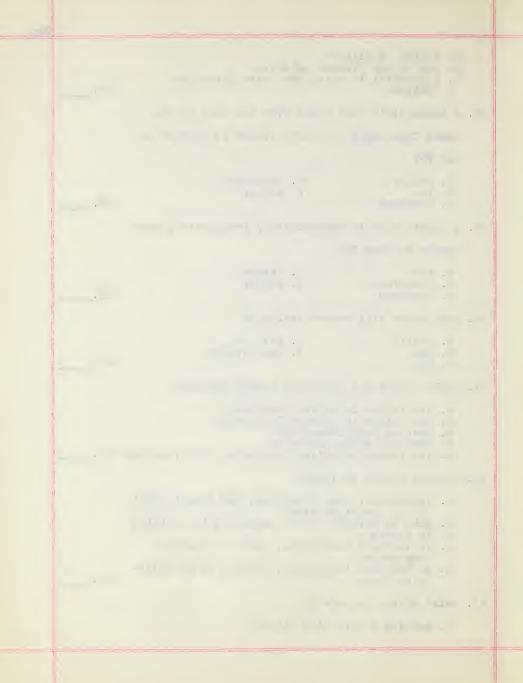
	d.	tucked in the neck entirely unfolded in the lap folded in quarters in the lap	26
27.		is carried to the mouth with	
	b. c. d.	fork in the right hand with the end of the handle resting in the palm of the hand left hand always either hand fork grasped in right hand	_
			27
28.	The	bread and butter plate is used	
	b. c. d.	for butter, meat and bread for sandwiches and potatoes to place under the soup plate to hold relishes and rolls for resting the dinner knife	28
29.	At t	he end of the main course the bread and butter	
	spre	ader is placed	
	b. c.	on the table on the serving plate diagonally over the top of the bread and butter plate on the salad plate on bread and butter plate with the handle resting on the table	29
30.	The	lettuce used in the salad	
	b. c. d.	is not to be eaten is cut with the fork is cut with the knife should be rolled around the fork should be transferred to the serving plate and cut with the knife	30
31.	The	soup spoon is	
	b.	used in the left hand used by dipping spoon into soup toward the person and sipping the soup from the side of the spoon used by putting the tip of the spoon in the	
		mouth by dipping it into the soup away from one, and sipping it	



	e. held in the same way that one holds a knife	31
32.	When plates are passed for a second helping	
	the knife and fork should be	
	a. placed together at one side of the plate b. held in the hand c. placed on the bread and butter plate d. placed on the table e. placed on the napkin	32
33.	One may use her fingers to eat	
	a.relishes and bread b. cookies and olives c. meat and sandwiches d. wafers and pies e. carrots or any other vegetable that is served whole	33
34.	The first person to rise from the table is	
	a. youngest child d. host b. waitress e. hostess c. guest	34
35.	When one is in doubt as to what spoon to use, or	
	how to eat a certain food she should	
	a. do as the hostess does b. do as the host does c. leave the food uneaten d. ask her neighbor e. use the largest spoon	35
36.	Furniture that is well constructed	
	<ul> <li>a. has all uprights made in at least two pieces</li> <li>b. is glued together</li> <li>c. is well braced, and the bracings are screwed in place</li> <li>d. has small attractive hinges</li> <li>e. has loose fitting drawers</li> </ul>	36
37.	Damask 1s	
	a. a plain cotton fabric b. a fragile glass	



	<ul><li>c. a kind of silver</li><li>d. any cotton figured mate</li><li>e. a material in which the pattern</li></ul>		37
38.	A table cloth that hangs	over the edge of the	
	table from eight to twelv	ve inches is correct to	
	use for		
		. breakfast . supper	38
39.	A napkin that is approxim	mately twenty-six inches	
	square is used for		
		. dinner . supper	39
40.	Cold water will remove st	Lains of	
		. wax . meat juices	40
41.	Table cloths are correctl	ly ironed when they	
	a. are folded in halves b. are folded in fourths c. have no lengthwise fo d. have all folds crossw e. are folded in halves	s lengthwise	41
42.	Napkins should be folded		
	a. lengthwise, then cross it is the right size b. with no corners of the c. in thirds d. in quarters lengthwise crosswise e. in quarters lengthwise wise folds	ne napkin on the outside se, then in quarters	42
43.	Solid silver is made by		
	a. coating a form with s	silver	



	<ul> <li>b. shaping the article of a silver alloy which meets the government standard of purity</li> <li>c. dipping the article in a silver solution</li> <li>d. shaping an article from pure silver</li> <li>e. cutting pieces of the ware from silver plate and finishing</li> </ul>	43
44.	Pressed glass is  a. made by pouring molten glass into a mold, cooling and polishing b. distinguished from cut glass by its sharp corners and elaborate design c. the same as cut glass d. decorated with colored enamels e. used only for window glass	44 <b>.</b>
45.	Porcelain as compared to china is	
	a. opaque d. a better grade b. translucent e. cheaper c. thicker	45
46.	The most formal type of service is	
	a. family d. combination b. English e. cafeteria c. Russian	46
47.	If the food is served by the host or hostess,	
	and the plates passed by the waitress, the	
	service has the name of	
	a. combination d. simple family b. Russian e. formal c. English	47
48.	Appropriate attire for a formal dinner is	
	a. a gown made of gingham b. a backless and sleeveless dress c. shorts d. culottes	
	e. a dress with short sleeves and a long skirt	48
49.	An informal dinner invitation is	
	a. sent out two days before the dinner b. written in the first person	

11.\_\_\_\_

c. issued only when one will have a maid to serve the meal	
<ul><li>d. issued by the host</li><li>e. written in the third person</li></ul>	49
50. Linen should be ironed	
<ul> <li>a. only on the right side</li> <li>b. when it is entirely dry</li> <li>c. partly dry on the wrong side, and then ironed dry on the right side</li> <li>d. as soon as it is washed</li> <li>e. only on the wrong side</li> </ul>	50
Test 3.	
Read the sentence carefully and select a word whic	h
correctly fits the blank. Write the word on the line a	t the
right of the paper which corresponds to the number of t	he blank
Cloths and runners that are made from (1) are	
easiest to launder, and will not hold stains.	1
Tables will be protected from heat and moisture, and	
will present a better appearance, if we use a mat	
known as a (2) under the table cloth.	2
When one buys table linen by the yard the border will	
be found on <u>(3)</u> of the four sides.	3
The napkin is placed at the <u>(4)</u> of the cover, with	4
the folds of the napkin at the <u>(5)</u> .	5
Knives are placed at the (6) hand side of the	6
(7), with the cutting edge at the (8).	8
Forks are placed at the (9) hand side of the	9
(10).	10

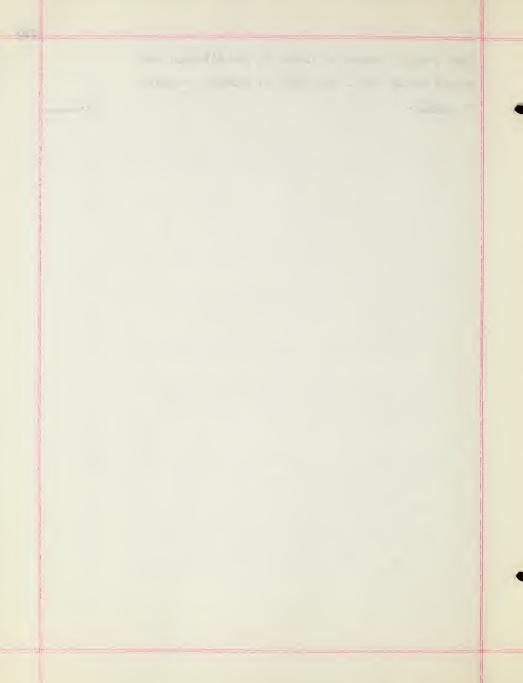
Spoons are placed at the (11) of the (12).

When a salad fork is to be placed on the table, it is	13
placed betwen the (13) and the (14).	14
The carving knife is placed at the (15) of the	15
person serving, about (16) inches from the edge	16
of the table.	
The (17) is placed at the tip of the knife.	17
The (18) is placed at the tip of the fork.	18
China is purchased from what is known as (19)	19
when it will be possible to replace any article.	
Cups and saucers are placed at the (20) of the	20
cover with the handles at the (21).	21
The soup, salad and dessert, are served by the (22).	22
A waitress serves a course by placing first the	23
(23), next the (24), and the (25) last.	24
A carving knife is held in the (26) hand, with	25
the forefinger (27), and the end of the handle	27
resting (28).	28
When one removes the soup course, the soiled plates	29
are removed (29), and the sour tureen (30).	30
When the waitress stands at the left of a person to	
remove dishes, she should use her (31) hand.	31
It is permissible to stand on either the right or	
left side of a person when removing dishes, except	
when one is removing <u>(32)</u> .	32
After the waitress has removed the food and soiled	33
dishes from the main course, and before she is	34

ready to place the dessert course, she should (33),	
then <u>(34)</u> , and then <u>(35)</u> .	35
After one is seated at the table, the napkin is	36
placed in the (36), in a (37) thickness.	37 •
When one is using a fork or spoon to carry food to	38
the mouth, the (38) and the (39) fingers do not	39
touch the handle of the fork.	
The bread is held (40) while it is being spread	40
with butter.	
When one has finished the meal the knife and fork	
are placed (41).	41
When furniture is well constructed the bracings are	
held with (42).	42
A dinner cloth should hang over the table (43)	43
inches.	
A luncheon napkin is about <u>(44)</u> inches square.	44
Fruit stains may be removed from linen by using	
<u>(45)</u> .	45
No (46) fold should be pressed in a table cloth.	46
The thickness of the silver in silver plate is	
designated by the term (47).	47
The design is more elaborate, and the design has a	48
sharper edge in (48) glass than in (49).	49
(50) service is considered to be more formal than	50
(51) service.	51

When food is placed on plates in the kitchen, and passed by the maid, the style of serving is known as (52).

52.\_\_\_\_



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## CHAPTER VI

## COMMENTS ON THE TEACHING OF THE UNITS

Methods of introducing a unit. -- The introduction of the unit is important and must be as carefully worked out as the assignment. Its purpose is to arouse an interest in the subject to be presented, and to create a desire for the work. The introduction need not be long, but enough time must be allowed to accomplish its purpose. Several different methods of presentation have been worked out, such as the discussion and the pretest. The movie method is also a desirable one, but could not be used.

The discussion is a method more commonly used than any other. It centers around the objective of the assignment and the pupils' interests and activities. The unit on "Table Setting and Serving" was introduced by a discussion, but an attempt was made through the discussion to change an attitude which had been found to exist in the group. Girls of high school age have a keen interest in any phase of a subject that deals with the development of pleasing manners and the improvement of personal appearance, but this attitude is not always carried over into other activities. It has been noted in many instances that girls who are particular about personal habits feel that the time used to arrange a table attractively, and

to serve a meal properly, is wasted. The introduction in this case was an effort to change this attitude, as it definitely affected the work of the unit. Two of the main points were again stressed in the assignment: that customs have been established through usage and for convenience; and that tests of refinement are found at the table.

A pretest was used to introduce one of the units - that of "Meal Planning". This type of introduction is especially effective when the work to be covered is a continuation of, or closely resembles, other work previously done. The selection of proper food is stressed in food groups in the junior high schools and in the health classes. The girls' exclamation, "we had that last year!" was expected, and the pretest was used to show them that there was plenty of new material to be learned. The pretest may serve a further purpose in the assigning of advanced work for those that have already mastered the work as planned.

Films showing some phase of the work to be studied are undoubtedly the best method of introducing a subject, and the most effective in creating interest. Such an introduction might have been used in either of the "Food Preservation" or the "Candy-Making" units. The film showing the preparation of frosted foods was shown to the group while they were working on food preservation, and was not only interesting, but was a good source of material difficult to obtain in any other

form. 1 A one-reel film entitled, "Beet and Cane Sugar", 2 is suggested as being helpful in the "Candy-Making" unit. This film was not shown to the groups.

Time requirement . -- The time required for the work may be of interest. About six weeks was allotted to the "Food Preservation" unit. The first two class periods were used for the preparation of problems one, two, and three. The recitation periods during that time were used as discussion periods, the last one offering an opportunity for the planning of the laboratory work. Two canning lessons followed, when food was canned both by the open kettle and cold pack methods. Problem four was studied in the next class period, and a jelly-making lesson followed. The test was given in the period usually used for recitation. The candy-making required five weeks of time. The first period was used as a study period, three practical lessons following. The recitation periods were used for discussion of the probelms, for planning of laboratory work, and for the test. Six weeks were needed for the "Meal Planning" unit, and four weeks for the "Table Setting and Serving" unit. The organization was similar to the previous units, the laboratory periods being used for study periods, and the recitation periods for discussions and tests.

Assignment. -- The assignment is that part of the work which is used by the pupil as an aid to study. All of the

<sup>1/</sup> Frosted Foods Sales Corporation, 250 Park Avenue, New York. 2/ University Extension Service, State House, Boston. Price \$1.50.

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assignments included in this thesis have been revised, holding certain points in mind; clearness and definiteness in the stating of the problem; and wise use of the time available for the work. While the girls were working on the assignment all questions concerning the interpretation of problems were noted and later were carefully studied. The statements found to be vague were reworded for greater accuracy. All units needed this revision.

The "Food Preservation" assignment was found to be too long to be well finished in the time that could be given to the subject. The original assignment included a problem dealing with the construction, use, and care of the refrigerator. This is recognized as an important problem, but as many of the girls have had similar problems in junior high school, and others might study the problem in an optional activity, it seemed best to shorten the assignment by omitting the problem. The construction and operation of a mechanical refrigerator have purposely been omitted, because it has been found that sophomore girls lack the scientific background necessary to appreciate this work.

The "Candy-Making" unit, as presented to the class, called for the making of barley candy as a means of studying the physical tests used in sugar cookery. The lollypop lesson followed, and it seemed so much of a duplication that in the revised assignment the making of lollypops was substituted for that of barley candy. This revision has made possible an

extra lesson for cardy-making, which gives time for developing more skill. and is an added interest to the work.

It was necessary to revise the "Meal Planning" unit more extensively than any of the others. Some means of checking problem one, and provision for further study, were found necessary before a girl should go on to the other problems. A second test seems necessary for the quicker pupils, but one is advisable for the slower groups. This second checking may follow the same general plan, or a meal from one of the hotel menu cards might be used, and would undoubtedly add interest to the work. Another revision in this unit was advisable - that of giving more instruction in the use of the score card. The original assignment assumed that the score card could be easily used, but this was not the case, and questions and inaccuracies in scoring made this change imperative.

The main change in the "Table Setting and Serving" unit was the addition of a problem to act as a summary for the work. Since the actual preparation and serving of a very simple breakfast followed the work of these units, it was possible to check more carefully on this last unit than on the others, and such a summary would have impressed certain points which were otherwise lost.

In the working out of the assignments, one difficulty was experienced. The stating of the problem as a question troubled many of the girls. They had difficulty in realizing that this question related to the problem as a whole, and

tended to concentrate on the problem title rather than on the sub-question which would answer the problem question. Once a girl realized this point, little difficulty was experienced.

Optional activities .-- The suggestions for optional activities were written on cards, and each girl was allowed to choose a topic which appealed to her interests. The last class discussion period was used for reports on the activities. An attempt was made to have each girl work on a different topic in the hope of developing initiative, responsibility, and selfreliance. It would be impossible to report on all of the interesting projects, but a few of the outstanding ones in each unit will be explained. The pupils' charts should be mentioned because of the quality of the workmanship, and the contribution to the subject. The best charts made in the "Food Preservation" unit showed such things as the variety of foods that are canned, various uses of canned foods, and the comparison of costs in various brands of canned foods. A chart showing the various kinds of sugars, and one showing the manufacture of sugar, were outstanding in the "Candy-Making" unit. Those showing well-balanced menus were offered in the "Meal Planning" unit. Maps were prepared and showed the sources of condiments, and sugars, and the manufacturing centers for preserved foods, candies, and table equipment.

One type of activity which seemed to be of general interest dealt with the food customs of foreign nations. What the children in other countries have to eat, and the candies

that are typical of different nations, proved to be quite interesting. The information for such topics is not easy to find. The girls asked people who had lived in foreign countries to help them, and in some cases parents told of their food habits in their native country. This personal touch added to the effectiveness of the report.

One field trip was discussed. Several of the girls visited a candy-making shop to watch it in operation. The proprietor, an experienced candy-maker, explained the work in detail. One of the girls questioned him quite closely about candy-making as a trade, its advantages, and its disadvantages, and was able to give the class a good report.

One rather interesting experience in the "Food Preservation" unit may be related which shows the effect of the optional activities on the general class work. A girl of very limited ability was unable to find a topic that appealed to her. The teacher realized that the topics were definitely beyond her ability, and that any contribution that she could make would have to be of a handwork nature. It was suggested that she make a model of a well-designed storage closet for fruits, vegetables, and preserves. The suggestion appealed to the child and she studied the plan very enthusiastically, using reference books freely. Extra help was given her, and some of the girls became interested in her problem and offered assistance. The work was finished, and although the results were very crude, they showed some real grasp of the subject.

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The pupil's enthusiasm in achieving something worthy of the admiration of her classmates has changed her attitude toward the whole course from one of discontent to one of interest in the work. When the next unit was being planned, and before she had examined the list of activities, she asked if she might have a topic "just like the other one". For her second topic she chose to make favors of candy, and this time the results were more successful.

The most effective activity in the "Table Setting and Serving" unit was an exhibition of table linens. Two girls from different classes worked together on this project. They borrowed table coverings - cloths, runners, and place mats, from classmates, neighbors, and friends, and arranged their exhibit. Other classes also benefitted by the exhibition.

Many of the projects which have been worked out this year are suitable to use in next year's classes. Some of the topics have been handled in such a way it is possible to add more material to them at some other time, and thus increase their value.

Tests. -- Tests are essential to determine what has been accomplished. For the units included here the multiple choice, completion, and a combination matching and completion types of tests were chosen. Except in the "Food Preservation" unit a different type of test was used in each of the three recitation groups, and each group was given an opportunity to use each type of test. One entire period was needed for each test, and

practically every girl finished in the allotted time. The girls were questioned as to which type of test they preferred. The multiple choice test was popular with most of the pupils, and the completion the least popular. In general, scores were higher on the multiple choice, and lowest on the completion. The revision of tests has been slight. Questions which were failed by a large number of pupils, and those which seemed to be difficult to interpret as shown by pupil query while taking the test, were examined, and an attempt made to state the problem more definitely. It has been suggested that tests be made to cover sections of the work in order that a pupil may test her own progress. This suggestion has not been carried out in any of the units. Another suggestion, however, has been in all but the "Candy-Making" unit, that of including in the test the work covered by the optional activities. Not more than two questions on each activity were included, and great care was taken to cover only major points, or such points as a child might easily grasp from an oral topic. All tests were scored by the teacher, and grades were established according to the usual accepted standard for the normal distribution.

Teaching materials. -- Educational materials, as published by manufacturers, are invaluable for any of these units. Text and reference-books explaining the manufacture and practical uses of commercially prepared articles are inadequate. Such texts may be supplemented by material furnished by the manufacturers through their educational departments. This

are also deliberated to the particular transport and

material is non-technical in nature, interestingly written, and is a valuable asset to class work. The film on the frosting of foods has already been mentioned. The American Can Company, listed in the bibliography, will send free of charge an abundance of material, the most valuable being a demonstration set of cans showing their construction, the measure of their contents in cups, the number and size, and the types of food commonly packed in each size.

An educational exhibit of the manufacture of sugar entitled, "Sample Sugars" is of value in the "Candy-Making" unit. It is prepared by the American Sugar Refining Company, 120 Wall Street, New York.

Actual menus from tea rooms, hotels, and restaurants, as well as menus from the school cafeteria, are necessary for the "Meal Planning" unit. Interest is added when girls use real menus for their work.

Articles from home-makers magazines have good material, written in a style that is non-technical, and easily understood by the girls. Such a file may be easily compiled by any teacher. This has the further educational value of stimulating interest in magazine reading.

Incidental learnings.-- Some incidental learnings acquired
in the work of the units may be mentioned:

- 1. Increased ability in the use of reference materials.
- 2. An acquaintance with home-making magazines.
- 3. Increased skill in the organization of material.

- 4. Training in the evaluation of materials.
- 5. Development of self-reliance.
- 6. Development of self-confidence, especially with poor students.

Points in general. -- The preparation and presentation of these units has made evident certain facts regarding the advantages of organizing work on the Unit-Assignment basis. From the pupil's standpoint this may be said:

- 1. More pupils take an active part in class work because of the individual help given them during the period of preparation. This participation shows a better grasp of the subject.
- 2. Greater interest is apparent in all groups since pupils gain confidence from work which is well prepared and organized.
- 3. Tests indicate that pupil-accomplishment is greater since averages of the tests are higher.
- 4. All pupils are busy all of the time, and the danger of establishing poor habits of work is avoided.
- 5. A much broader view of the subject is gained. The good pupil especially has an opportunity to consult several reference books, while time may be better apportioned according to the importance of the problem. Through the reports on optional activities, insight is gained in minor points.
- 6. There is more opportunity for individual help, and since much of the work is done under the supervision of the teacher, no time is wasted in hunting for materials, since

questions are answered as they arise. Girls will ask questions of the teacher during the study period that self-consciousness would prevent them from asking during class discussion periods.

7. The pupil knows definitely what the teacher expects her to do - and, it may be said also, that the teacher knows exactly what she wants done.

From the standpoint of the teacher:

- 1. A definite line is drawn between essential and nonessential materials, which avoids crowding too much material into the limited time allotted to a special phase of the subject.
- 2. Planning for an entire unit of work gives smoothness and continuity to the work because it is possible to get a view of the entire problem in its relation to other problems.

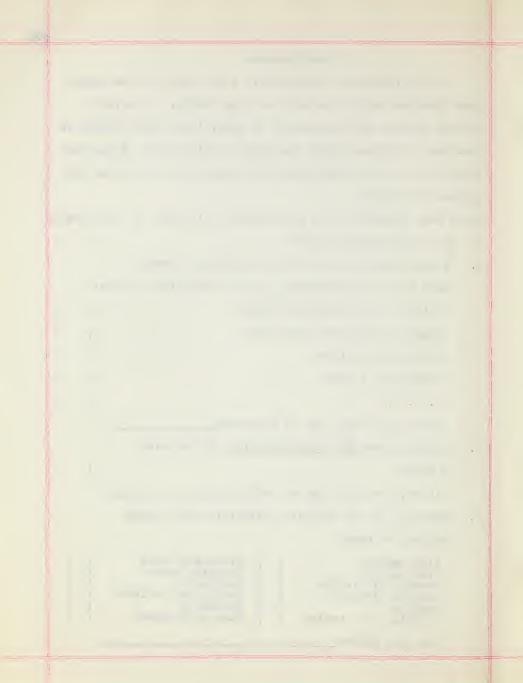
APPENDIX



## A Questionnaire

	In the f	ollowin	g quest	cionr	naire	I am a	asking	you	to ans	swer
some	question	s about	yourse	elf a	nd yo	ur fan	nily.	I am	very	
anxio	us to ha	ve the	informa	ation	in c	rder t	hat I	may :	includ	le in
your	home eco	nomics	course	the	thing	s that	will	be o	f the	most
value	to you	in your	work,	and	will	enable	you	to do	your	work
quick	er and b	etter.								

val	ue to you in your work, and will enable you to do you	ar w	ork
qui	cker and better.		
Plac	ce your answers in the parentheses at the end of the	que	stion
1.	Do you work after school?	(	)
2.	If your answer to the above question was "yes",		
	check any of the following kinds of work that you do	:	
	Helping with housework at home	(	)
	Helping others with housework	(	)
	Caring for children	(	)
	Working in a store	(	)
	N. Y. A.	(	)
	Write any other kind of work here	~	
3.	Do you assume <u>full responsibility</u> for any work		
	at home?	(	)
	If so, for what kind of work?		
4.	Check any of the following activities with which		
	you help at home:		
	Dish washing ( ) Preparing meals Dish drying ( ) Planning meals Washing of clothes ( ) Marketing Ironing clothes ( ) Caring for children Mending ( ) Bedmaking Sweeping and dusting ( ) Care of bathroom		)
	List any others	-	



5.	Is canning done in your home?		(	)
	If "yes" was the answer to the above question,			
	answer the following:			
	Is food bought for canning at your home?		(	)
	Is canning restricted to such foods as are gro	own		
	at home or to those that are given to you?		(	)
	Is jelly made at your home?		(	)
	Are pickles made at your home?		(	)
6.	Is the bread that is used in your home			
	(All bakery? - All homemade? - Some of each?)	(		)
7.	Are the cakes that are used in your home			
	(All bakery? - All homemade? - Some of each?)	(		)
8.	Are the pies that are used in your home			
	(All bakery? - All homemade? - Some of each?)	(		)
9.	Are the doughnuts that are used in your home			
	(All bakery? - All homemade? - Some of each?)	(		)
10.	How many people live in your home?	(		)
11.	Do you live in (an apartment? - a whole house? -			V <sub>a</sub>
	a double house? - a flat? - a block?)	(		)
12.	Do your parents own the home in which you live?	(		)
13.	Where do you eat most of your meals?			2
	(Kitchen - dining-room - dining alcove -			
	part of living-room?)	(		)
14.	How many bedrooms are there in your home?	(		)
15.	How many people share your bedroom with you?	(		)
16.	Is there a family garden?	(		)

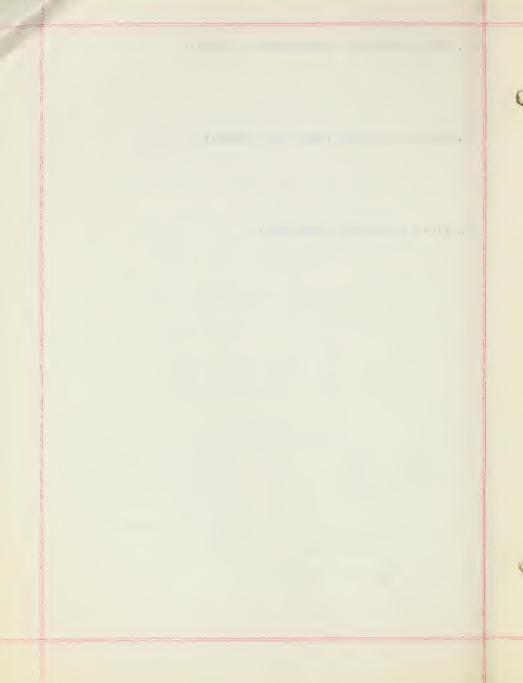
17.	Do you have fruit trees? (		)
18.	Do you have berry bushes? (		)
19.	Do you have grape vines?		)
20.	Is the laundry work done at home? (		)
21.	Does your mother hire someone to help with the		
	laundry? (		)
22.	Is anyone employed to do any other type of work?	(	)
	If so, what kind of work? (		)
23.	What kind of fuel is used for the greater part		
	of the cooking? (Wood - coal - oil - gas -		
	electricity?) (		)
24.	If you have a gas or an electric oven, is it		
	automatically controlled? (		)
25.	Have you a refrigerator? (		)
	If the above answer was "yes", is the		
	refrigerator (ice? - electric? - gas? -		
	oil?)		)
26.	Check the following pieces of equipment that you	use at	t home
	Vacuum cleaner ( ) Sandwich toaster Electric washer ( ) Chafing dish Electric ironer ( ) Pressure cooker Electric iron ( ) Egg cooker Electric mixer ( ) Electric plate Toaster ( ) Gas plate Percolater ( ) Electric casserole Electric roaster ( ) Grill Electric dish washer ( ) Waffle iron	;	
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27. Write your usual breakfast:

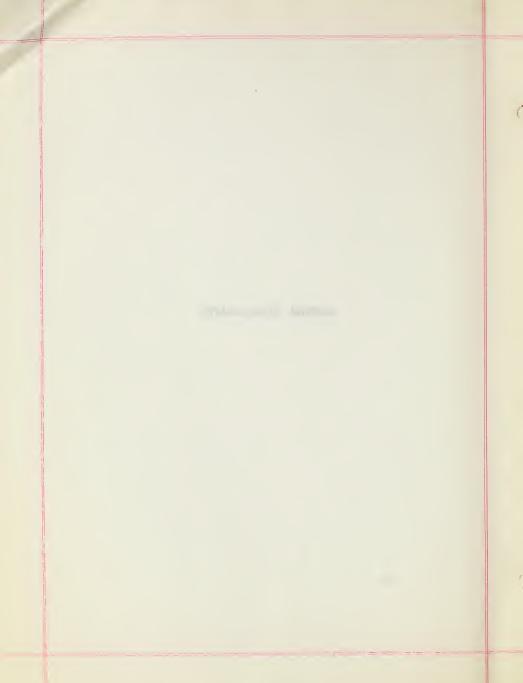
28. Write your usual lunch while at school:

29. Write your usual lunch after school:

30. Write your usual night meal:



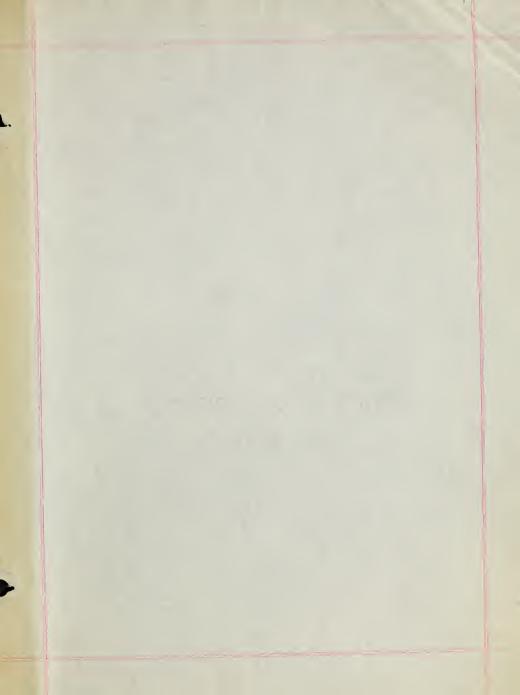
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